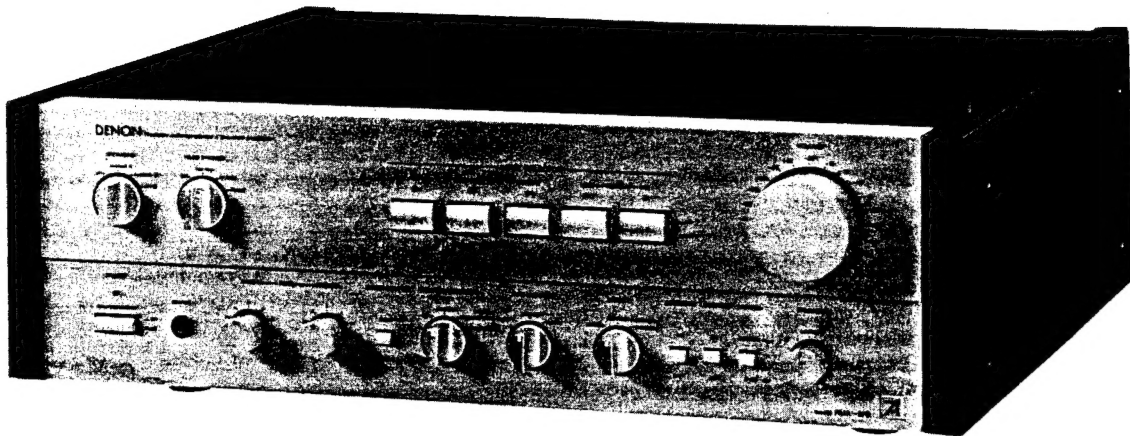


DENON

Hi-Fi Component Amplifier

SERVICE MANUAL MODEL PMA-970



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NIPPON COLUMBIA CO., LTD.

SPECIFICATIONS

POWER AMPLIFIER SECTION (TUNER → SP OUT)

| | |
|---------------------------------------|--|
| Circuit System: | All stage direct DC servo circuit |
| Rated Output Power: | Both channel drive 20 Hz to 20 kHz/100 W + 100 W (8 ohm Load T.H.D. 0.003%) 1 kHz/80 W + 80 W (4 ohm Load T.H.D. 0.003%) |
| Total Harmonic Distortion: | Less than 0.003% (20 Hz to 20 kHz) |
| Intermodulation Distortion: | 7 kHz/60 Hz: 1/4 lower than 0.005% (at amplitude output equivalent to rated output) |
| Power Band Width: | 5 Hz to 100 kHz (IHF, T.H.D. 0.02%) |
| Transmission Characteristics: | 1 Hz to 400 kHz ± 0.8 dB (at 1 W output) |
| Input Sensitivity: | 150 mV |
| Input Impedance: | 40 k ohm |
| Output Impedance: | 0.08 ohm |
| Signal to Noise Ratio: (IHFA Network) | 108 dB (input terminals short-circuited) |
| Output Terminals: | Speaker: A & B load: 4 — 16 ohm; A + B: 8 — 16 ohm (with impedance change-over switch) Headphone: for Stereo Headphone (with impedance change-over switch) |

PREAMPLIFIER SECTION

| | |
|------------------------------------|---|
| Equalizer Amplifier Output: | Maximum Output: 18 V (at 50 k ohm load) |
| (REC OUT Terminals): | Rated Output: 150 mV Total Harmonic Distortion: Lower than 0.002% (at 1 kHz, 8 V output) |
| Input Sensitivity/Input Impedance: | PHONO-1 MM 2.5 mV 50 k ohm MC 0.2 mV 100 ohm PHONO-2 MM 2.5 mV 50 k ohm TUNER 150 mV 40 k ohm AUX, TAPE 150 mV 40 k ohm |
| Maximum Input Level: | PHONO-1 MM 300 mV (1 kHz) MC 23 mV (1 kHz) PHONO-2 MM 300 mV (1 kHz) |

RIAA Deviation:

| | |
|---------|--|
| PHONO-1 | MM within ± 0.2 dB (20 Hz to 100 kHz) MC within ± 0.2 dB (20 Hz to 100 kHz) |
| PHONO-2 | MM within ± 0.2 dB (20 Hz to 100 kHz) |

OVERALL CHARACTERISTICS

| | |
|--|---|
| Signal-to-Noise Ratio: (IHF A Network) | PHONO-1 MM 90 dB (input terminal short-circuited with input of 2.5 mV) MC 75 dB (input terminal short-circuited with input of 250 μ V) TUNER TAPE AUX more than 108 dB (input terminals short-circuited) |
| Tone Control Adjustable Range: | BASS 100 Hz ± 8 dB TREBLE 10 kHz ± 8 dB |
| Filter Characteristic: | SUBSONIC 18Hz, 6 dB/oct |
| Loudness Characteristics: | Low frequency 100 Hz + 7 dB High frequency 10 kHz + 6 dB |
| Muting: | -20 dB |

POWER

| | |
|--------------|---|
| REQUIREMENT: | Germany and France: AC 220 V, 50 Hz U.K.: AC 240 V, 50 Hz U.S.A.: AC 120 V, 60 Hz |
|--------------|---|

| | |
|--------------------|---|
| POWER CONSUMPTION: | 340 W (U.S.A.) (UL) 670 VA (Canada) (CSA) 800 W (at maximum output) (IEC) |
|--------------------|---|

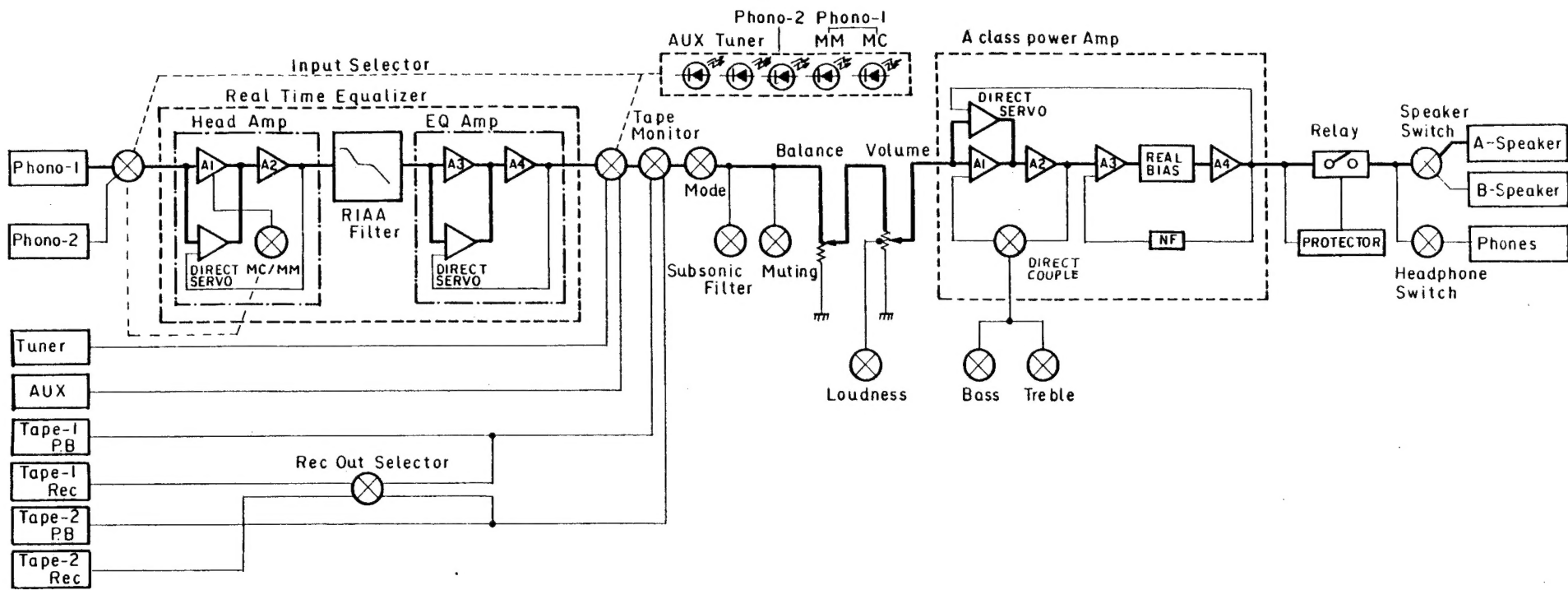
AC OUTLET

| | |
|------------------------|--|
| (for U.S. and Canada): | SWITCHED $\times 2$, 100 W (total) UNSWITCHED $\times 1$, 250 W 506mm (W) \times 168mm (H) \times 451 mm (D) (including rubber feet, knobs and terminals) |
|------------------------|--|

| | |
|---------|---------|
| WEIGHT: | 23.0 kg |
|---------|---------|

Design and specifications subject to change without notice because of improvement.

NOTE: The following codes correspond to the appropriate models.
E2 for Europe, EG for Germany, EF for France, EK for U.K.



METHOD OF ADJUSTMENT

NOTE: Before servicing PUX-027 POWER AMP P.C.B., be sure discharge Capacitor C1 and C2 (33,000 μ F) through resistor.

N.B: When cross point of R213 and R214 (100k Ω) on PUX-027 POWER AMP is short circuited to ground, output from differential amplifier which consists of TR53 and TR54 (μ PA68H) will stop, and usually no idle current exists in the power transistor. Then, in the event excessive current, due to Class A bias circuit malfunction prior to TR53, 54 stage, exists at Power Transistors, ground the above mentioned cross point to locate the trouble.

1. PUX-027 (POWER AMP PCB) CLASS A BIAS CIRCUIT ADJUSTMENT

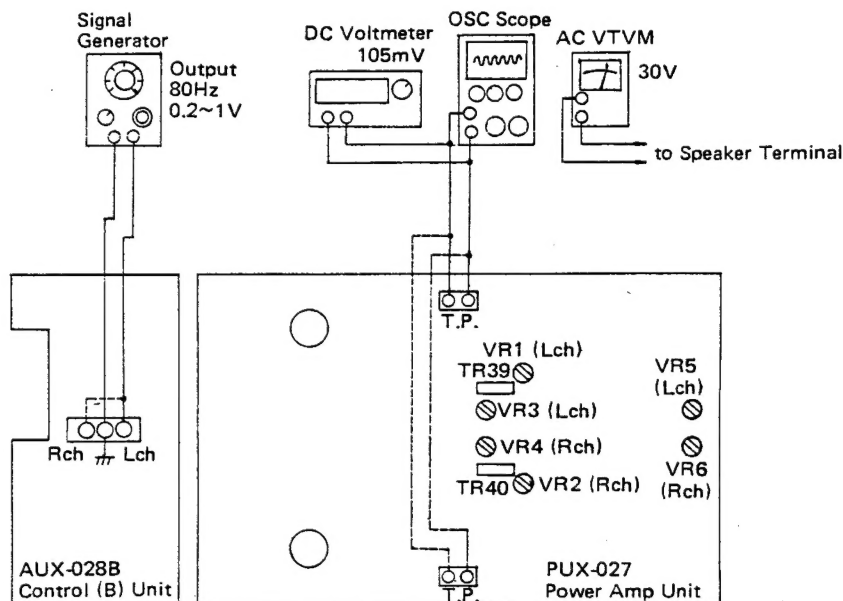


Fig. 1

(1) **Attenuator Balance Adjustment** (Remove Equalizer Amp P.C.B.; AUE-008 and detach shield case so as the partside of PUX-027 is visible).

- 1 Set each switch as per,
POWER \rightarrow off, VOLUME \rightarrow $-\infty$ dB, MODE \rightarrow normal
LOUDNESS \rightarrow off, MUTING \rightarrow 0 dB, BALANCE \rightarrow center
DIRECT COUPLE \rightarrow direct, SPEAKERS \rightarrow A+B
SP. IMP. \rightarrow HIGH (BACK PANEL)
- 2 Connect measuring instruments as per, (Refer to Fig. 1.)
 - Signal generator to 9 10 11 terminals of AUX-028 (Control B).
 - Set the S.G. output to 0.2 ~ 1V, 80Hz.
 - Connect DC voltmeter and Oscilloscope to T.P. terminals of PUX-027.
 - Connect AC voltmeter only to speaker terminal.
- 3 Turn power switch on. After one minute, adjust VR5 (L CH) and VR6 (R CH) so as DC voltage at T.P. terminals shows 105mV.
- 4 Connect bases of TR39 (L CH) and TR40 (R CH) (μ PA77V) together.
Adjust VOLUME so as the voltage at speaker terminal shows 30V.
Observing Oscilloscope, adjust VR1 (L CH) and VR2 (R CH) so as AC voltage at T.P. terminals become minimum (smaller than 10 mVp-p).
Then, remove the connection from bases of TR39 (L CH) and TR40 (R CH), and adjust VR3 (L CH) or VR4 (R CH) so as AC voltage at T.P. terminals become minimum (smaller than 20 mVp-p).

(2) **Idling Current Adjustment** (Set the unit upright, and do not remove bottom cover and EQ shield case.)

- 1 Set each switch as per,
POWER → off, VOLUME → $-\infty$ dB,
SPEAKERS → off, SP. IMP → HIGH (BACK PANEL)
- 2 Connect DC voltmeter to T.P. terminals of PUX-027. (solder DC voltmeter leads to T.P. terminals, or use a pair of jig through available space between power radiator and EQ shield case to extend T.P. outward.)

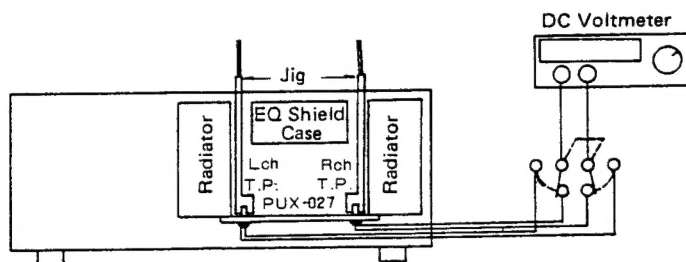


Fig. 2

- 3 Turn power switch on. After 2 to 5 minutes, adjust VR5 (L CH) and VR6 (R CH) so as the terminal voltage shows 105 ± 5 mV. Insert a — screwdriver through the holes on back panel to adjust VR5 and VR6.

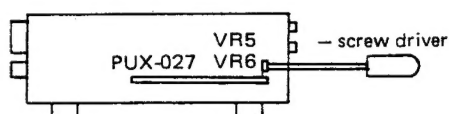


Fig. 3

2. EQUALIZER AMPLIFIER NEUTRAL ADJUSTMENT

- 1 Set each switch as per,
PHONO-1 INPUT JACK → Insert Short Pin
TAPE-1 REC INPUT JACK → Connect DC voltmeter
INPUT SELECTOR → PHONO-1 MM
REC OUT SELECTOR → off, POWER → off
- 2 Turn power switch on. After 10 seconds, set REC OUT SELECTOR to SOURCE, and after 3 minutes, adjust VR1 (L CH) and VR2 (R CH) on the Equalizer servo P.C.B. so as the DC voltage at REC terminal shows 0 ± 0.5 mV. (Refer to Fig. 4.)

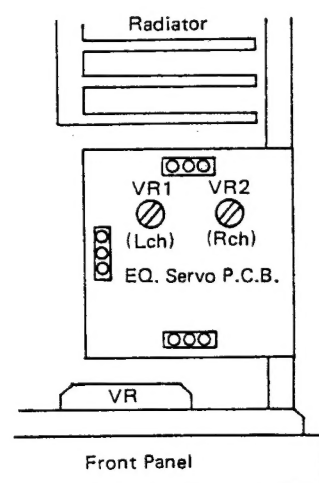


Fig. 4

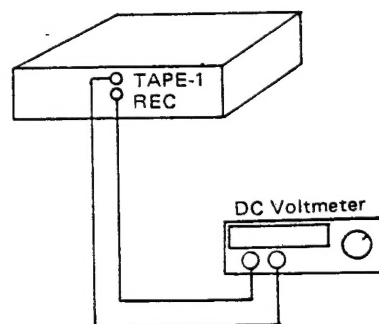


Fig. 5

PRECAUTION TO USE PMA970

1. RADIO RECEPTION

When connecting AM, FM tuner to the unit, it is preferable to place the tuner more than 10cm away from the PMA970 unit. It is especially true when the Field Strength is weak, since the small pulse noise from the PMA970 could be amplified in the tuner and come out through speaker.

2. SPEAKER IMPEDANCE MATCHING

Use care to match speaker system impedance to that of the Unit. Observe the table below.

Table 1

| Speaker switching Impedance switching and speaker impedance | High | Low |
|---|---------|-----|
| | | |
| System A | 8 ~ 16Ω | 4Ω |
| B | 8 ~ 16Ω | 4Ω |
| A+B | 16Ω | 8Ω |

The unit is designed to work at Class A characteristic curve with the load impedance listed above. In the event the load impedance is low, bias current will increase and temperature of power transistors will rise.

- 2-1 To hook 8 to 16Ω speaker system, with speaker switch set to A or B, use "High".
- 2-2 To hook two pairs of 8Ω speaker systems, set speaker switch on the front panel to A+B, and set speaker impedance switch on the back panel to "Low".
- 2-3 To hook 4Ω speaker system, with speaker switch set to A or B, use "Low".
- 2-4 NEVER HOOK 4Ω speaker systems to A and B and operate A+B at the same time, or could invite power amplifier damage due to excessive current and heat rise.
Positively observe the instruction above. In the event of mismatching, protector flashes warning LED. Then, turn power switch off, and see to it and correct the mismatching.

3. PRECAUTION TO USE HEAD PHONE

Low, High is switchable to HEAD PHONE impedance, and also DIRECT switching to power amplifier is provided to fully use the best performance of HEAD PHONE. However, wrong connection could invite damage to ear as well as HEAD PHONE due to intense sound.

- 3-1 Always set Main Volume to MIN prior to use HEAD PHONE.
- 3-2 Set impedance switch to HEAD PHONE impedance. (100W + 100W output could be delivered to HEAD PHONE terminals, on Direct position)
- 3-3 Gradually turn Main Volume to the desired sound level.
- 3-4 When not using HEAD PHONE, be sure to set impedance switch to OFF or Low.

PROTECTOR AND PRINCIPLE OF FUNCTION

It provides a function to protect expensive speaker system from possible damage which due to power switch on/off surge, amplifier malfunction and abnormal temperature rise of the power radiator, by isolating the speaker system from power amplifier output.

It consists of an IC which covers all function. Refer to figure 6.

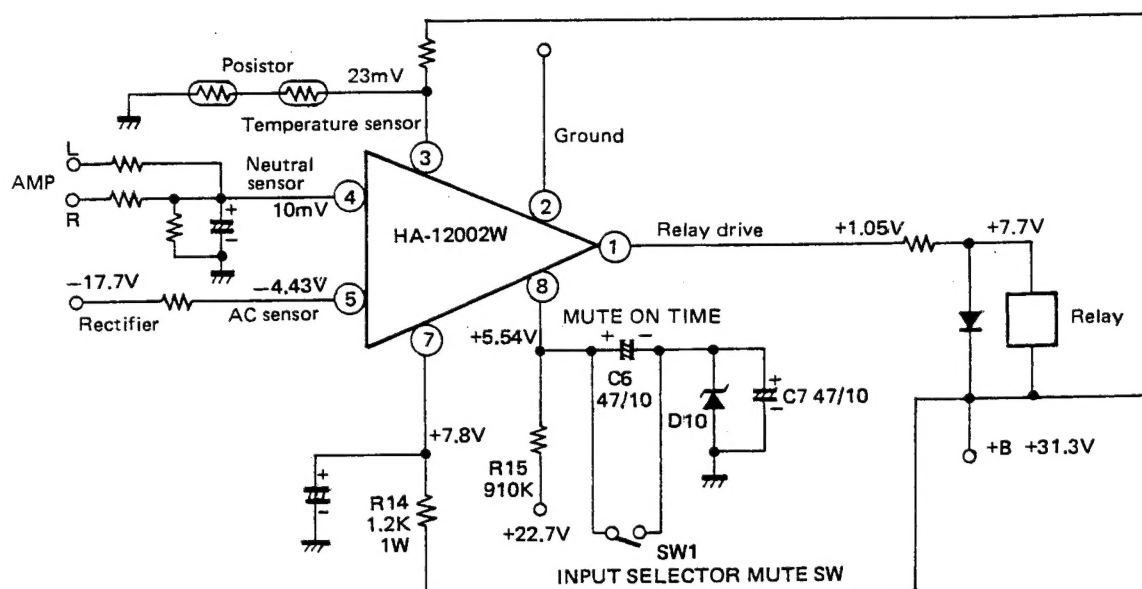


Fig. 6

- **Mute ON Time**

PIN 8 of IC determines OFF/ON time of MUTING. Relay turns ON about 6 ~ 8 seconds after the power sourceswitch turned on, according to time constant determined by R15, C6 and C7.

When power switch is turned on with MC, MM position, click output voltage from Equalizer is applied to PIN 4 of IC, and MUTING TIME is elongated, which delays MUTING TIME at the Main volume.

Also, when INPUT SELECTOR MUTE SW is pressed C6 is shorted momentarily, and 1.5V which determined by D10, is applied to PIN 8 and activates the relay (OFF), and after about 1 ~ 2 seconds, relay turns on in relative to charging time constant.

- **Neutral Sensor**

When more than $\pm 1.2V$ DC is applied to Pin 4 of IC, the relay activates (OFF).

- **Temperature Sensor**

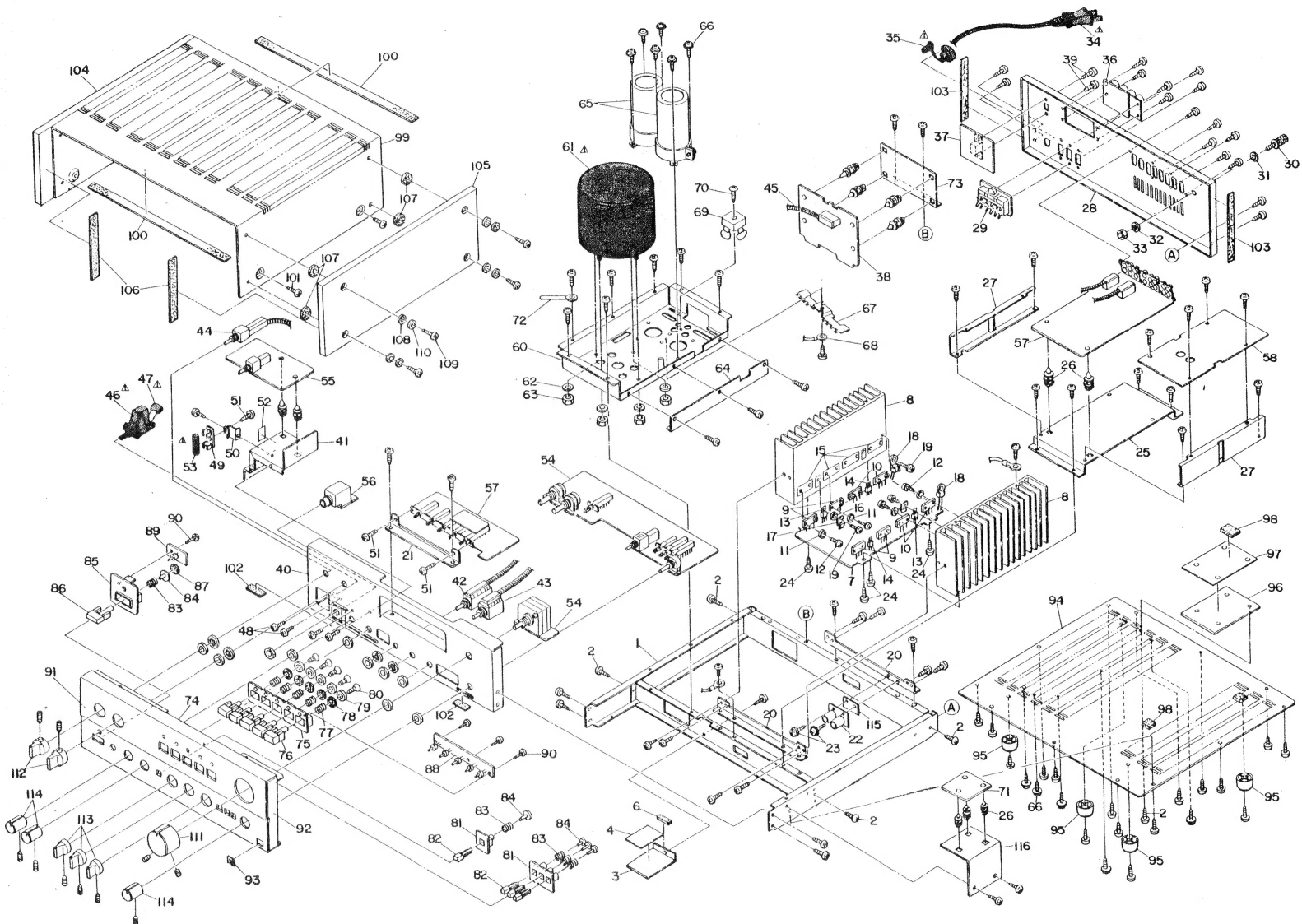
In the event RADIATOR temperature rises above $105^{\circ}C$, posistor activates the relay (OFF).

- **AC Sensor**

When power switch turned off, voltage at Pin 5 of IC drops to 0, and activates relay (OFF).

EXPLODED VIEW OF CHASSIS A... CABINET

▲ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



NOTE:

All screws without symbol numbers are fixing screws (Refer to exploded view parts list Ref. No. 5).

ADDENDUM LIST

| Ref. No. | Part Name & Descriptions | EG for Germany | EF for France | EK for U.K. |
|----------|--------------------------|----------------|---------------|-------------|
| 28 | BACK PANEL | 1050343004 | 1050343004 | |
| ▲ 34 | AC CORD | 2062016001 | 20621016001 | |
| ▲ 35 | CORD BUSH | 4450020005 | 4450020005 | |
| ▲ 46 | PUSH SWITCH | 2124202012 | 2124202012 | |
| ▲ 61 | POWER TRANS. | 2335242007 | 2335242007 | |
| 74 | FRONT PANEL | 1440631009 | 1440631009 | |

EXPLODED VIEW OF PARTS LIST

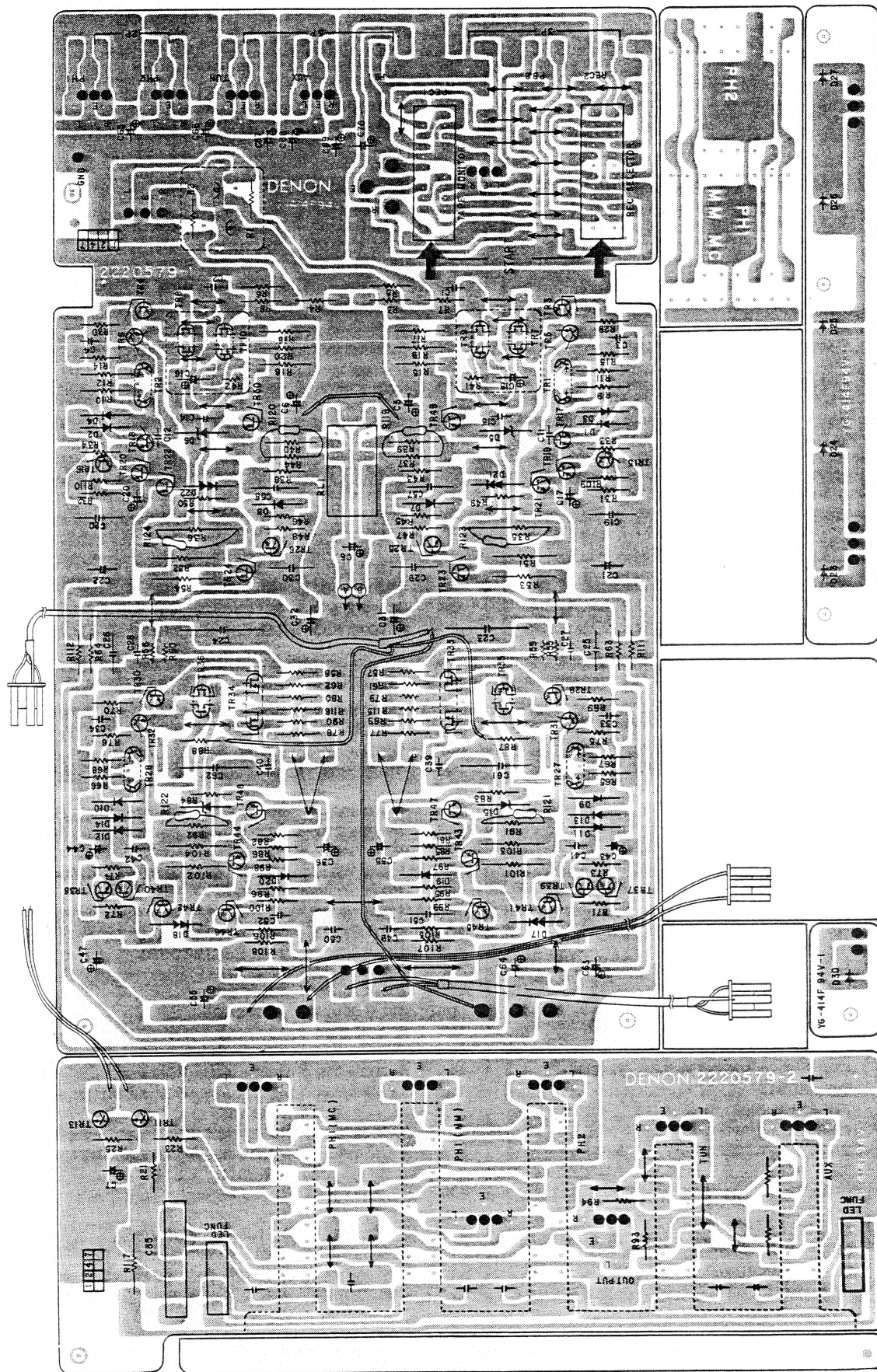
Note: See addendum list below for the parts with asterisk (*) on the Ref. No. and the other parts not included in this list.

| Ref. No. | Part No. | Part Name & Descriptions |
|----------|------------|---|
| 1 | 4110225409 | CHASSIS ASS. |
| 2 | 4730354035 | TAPPING SCREW (2) 3x8 BLACK |
| 3 | 4140206100 | SHIELD PLATE |
| 4 | 4150166104 | INSULATING SHEET |
| 5 | 4770064107 | FIXING SCREW |
| 6 | — | — |
| 7 | PUX0027B | POWER AMP UNIT |
| 8 | 4170119102 | POWER RADIATOR |
| 9 | 2730230025 | TRANSISTOR 2SC2588A(Q)/(R) |
| 10 | 2710127022 | TRANSISTOR 2SA1108A(Q)/(R) |
| 11 | 4751003006 | 3 WASHER |
| 12 | 4700012006 | CROSS PAN SCREW WITH S. WASHER 3x12 |
| 13 | 2730199027 | TRANSISTOR 2SC2238(Y)/(O) |
| 14 | 2710104029 | TRANSISTOR 2SA968(Y)/(O) |
| 15 | 4150180009 | INSULATING SHEET |
| 16 | 4150182007 | BUSH |
| 17 | 4410326008 | HOLDER |
| 18 | 2760289004 | DIODE PTH487A01BD222TS |
| 19 | 4700010008 | CROSS PAN SCREW WITH S. WASHER 3x8 |
| 20 | 4120660203 | RADIATOR BRACKET |
| 21 | — | — |
| 22 | — | — |
| 23 | 4700025006 | — |
| 24 | 4730354019 | TAPPING SCREW (2) 3x8 |
| 25 | 4140202104 | SHIELD PLATE |
| 26 | MD-5271 | P.C.B. SUPPORT |
| 27 | 4140204005 | SHIELD BRACKET |
| *28 | 1050343004 | BACK PANEL |
| 29 | — | — |
| 30 | 2050043109 | GND TERMINAL |
| 31 | 4700088002 | 4.1 WASHER |
| 32 | 4753100004 | 4 TOOTH WASHER |
| 33 | 4700006000 | 4 NUT |
| Δ*34 | 2062016001 | AC CORD |
| Δ*35 | 4450020005 | CORD BUSH |
| 36 | SUX00253 | SPEAKER TERMINAL UNIT |
| 37 | SUX00254 | IMPEDANCE SELECT UNIT |
| 38 | SUX00251 | POWER SUPPLY UNIT |
| 39 | 4711304033 | CROSS PAN SCREW 3x8 |
| 40 | 4110223207 | FRONT CHASSIS ASS. |
| 41 | 4120658105 | SHIELD BRACKET |
| 42 | 2120164002 | ROTARY REMOTE (A) SWITCH FOR REC OUT |
| 43 | 2120165001 | ROTARY REMOTE (B) SWITCH FOR TAPE MONITOR |
| 44 | 2120161005 | ROTARY REMOTE (C) SWITCH FOR SPEAKER |
| 45 | 4350045012 | FLEXIBLE SLIDER |
| Δ46 | 2124202012 | PUSH SWITCH |
| 47 | 2518001007 | OIL CAPACITOR 0.01μF 450WV |
| 48 | 4700042005 | CROSS PAN SCREW WITH S. WASHER 3x8 BLACK |
| 49 | 2020013004 | FUSE HOLDER |
| 50 | 4120238130 | BRACKET |
| 51 | 4700009006 | CROSS PAN SCREW WITH S. WASHER 3x6 |
| 52 | 5130159172 | FUSE LABEL |
| 53 | 2061015090 | FUSE (5A) |
| 54 | AUX0028B | CONTROL (B) UNIT |
| 55 | SUX00252 | PRE POWER SOURCE UNIT |
| 56 | SUX00256 | HEADPHONE UNIT |
| 57 | AUE0008B1 | EQ UNIT |
| 58 | 4140205101 | SHIELD PLATE |
| 59 | — | — |

| Ref. No. | Part No. | Part Name & Descriptions |
|----------|------------|---------------------------------------|
| 60 | 4110240109 | TRANS CHASSIS |
| Δ61 | 2435742007 | POWER TRANS |
| 62 | 4752006002 | 6 SPRING WASHER |
| 63 | 4756012005 | 6 NUT |
| 64 | 4120691007 | BRACKET |
| 65 | 2546050004 | ELECTROLYTIC CAP. 33000μF |
| 66 | — | — |
| 67 | 2050117006 | EARTH PLATE |
| 68 | 2050003000 | 3 PLUG |
| 69 | 2760257007 | DIODE 15D4841 |
| 70 | 4730459011 | TAPPING SCREW (2) 4x16 |
| 71 | — | — |
| 72 | EP-4772 | CORD HOLDER |
| 73 | 4120663003 | PWB BRACKET |
| *74 | 1440631009 | FRONT PANEL |
| 75 | 1140049001 | PANEL BUSH (A) |
| 76 | 1130190106 | PUSH KNOB ASS. |
| 77 | 4630226001 | SPRING |
| 78 | 1240029031 | FELT SHEET (A) |
| 79 | 1190022007 | STOPPER |
| 80 | 4712303017 | FLAT HEAD SCREW 3x6 |
| 81 | 1140050003 | PANEL BUSH (B) |
| 82 | 1130191005 | PUSH KNOB |
| 83 | 4630226014 | SPRING |
| 84 | 1190014002 | STOPPER |
| 85 | 1140051002 | PANEL BUSH (C) |
| 86 | 1130192007 | PUSH KNOB ASS. |
| 87 | 1240030004 | FELT SHEET (B) |
| 88 | AUE0008B2 | INPUT LED UNIT |
| 89 | AUE0008B3 | POWER LED UNIT |
| 90 | 4730304014 | TAPPING SCREW (1) 3x8 |
| 91 | 1460240001 | SIDE ESC. (L) |
| 92 | 1460241000 | SIDE ESC. (R) |
| 93 | 1350035012 | MARK |
| 94 | 1050308104 | BOTTOM COVER |
| 95 | 1040027107 | FOOT |
| 96 | 4140215007 | SHIELD PLATE |
| 97 | 4150172004 | INSULATING SHEET |
| 98 | 4610136014 | RUBBER SHEET |
| 99 | 1020094202 | TOP COVER |
| 100 | 1220064045 | SPACER |
| 101 | 4734801005 | TAPPING SCREW TRUSS (2) 4x8 |
| 102 | 1250004020 | SPACER |
| 103 | 1240019054 | FELT SHEET |
| 104 | 1010729008 | WOOD BOARD (L) |
| 105 | 1010730107 | WOOD BOARD (R) |
| 106 | 1220064032 | SPACER |
| 107 | 1240032002 | FELT SHEET |
| 108 | 4751006016 | 5 WASHER |
| 109 | 4734461034 | TAPPING SCREW TRUSS (2) 4x25 |
| 110 | 4752004004 | 4 SPRING WASHER |
| 111 | 1120285005 | KNOB ASS. (FOR VOL.) |
| 112 | 1120286004 | KNOB ASS. (FOR SPEAKER, HEAD PHONE) |
| 113 | 1120287003 | KNOB ASS. (FOR TAPE REC. NO D) |
| 114 | 1120288002 | KNOB ASS. (FOR BALANCE, BASS, TREBLE) |
| 115 | — | — |
| 116 | 4120703005 | PWB BRACKET |
| 117 | 2050089008 | 7P WIRING TERMINAL |
| 118 | 4150088004 | INSULATING SHEET |
| 119 | 4711104039 | CROSS PAN SCREW 2x8 BLACK |
| 120 | 4140220005 | SHIELD COVER |
| 121 | 2048069001 | 5P CONNECTOR (DIN) |

PRINTED CIRCUITBOARD PATTERNS AND PARTS LIST

AUE-008B EQ. UNIT



NOTE:
Please be noted the following difference between the print on the AUE 008B P.C. Board and actual parts utilized.

- Polarity of TR24 is reversed. Actually B → E, E → B.
- Polarities of C5, C6 are reversed.
- VR1, VR2 are not utilized. These portions are jumpered with lead.
- RL2 is not employed.
- Refer to pattern side for R119, 120 (RD14B2E391J), R121, 122, 123, 124 (RD14B2H200), C85 (CE04W1E101).

AUE-008B PARTS LIST

| Ref. No. | Part No. | Part Name & Descriptions | |
|----------------|------------|--|-------------------------|
| SEMICONDUCTORS | | | |
| TR01 | 2710126049 | μ PA-77V(P)/(F)/(E) | TRANSISTOR |
| TR02 | 2710126049 | μ PA-77V(P)/(F)/(E) | TRANSISTOR |
| TR03 | 2730186001 | 2SC1940(L) | TRANSISTOR |
| TR04 | 2730186001 | 2SC1940(L) | TRANSISTOR |
| TR05 | 2730186001 | 2SC1940(L) | TRANSISTOR |
| TR06 | 2730186001 | 2SC1940(L) | TRANSISTOR |
| TR07 | 2750026057 | 2SK146GR/BL | FIELD EFFECT TRANSISTOR |
| TR08 | 2750026057 | 2SK146GR/BL | FIELD EFFECT TRANSISTOR |
| TR09 | 2750026057 | 2SK146GR/BL | FIELD EFFECT TRANSISTOR |
| TR10 | 2750026057 | 2SK146GR/BL | FIELD EFFECT TRANSISTOR |
| TR11 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR12 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR13 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR14 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR15 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR16 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR17 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR18 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR19 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR20 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR21 | 2730199001 | 2SC2238(Y) | TRANSISTOR |
| TR22 | 2730199001 | 2SC2238(Y) | TRANSISTOR |
| TR23 | 2710104003 | 2SA968(Y) | TRANSISTOR |
| TR24 | 2710104003 | 2SA968(Y) | TRANSISTOR |
| TR25 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR26 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR27 | 2710126049 | μ PA-77V(P)/(F)/(E) | TRANSISTOR |
| TR28 | 2710126049 | μ PA-77V(P)/(F)/(E) | TRANSISTOR |
| TR29 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR30 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR31 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR32 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR33 | 2750024004 | μ PA68H(K) FIELD EFFECT TRANSISTOR | |
| TR34 | 2750024004 | μ PA68H(K) FIELD EFFECT TRANSISTOR | |
| TR35 | 2750026057 | 2SK146GR/BL | FIELD EFFECT TRANSISTOR |
| TR36 | 2750026057 | 2SK146GR/BL | FIELD EFFECT TRANSISTOR |
| TR37 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR38 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR39 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR40 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR41 | 2730187013 | 2SC2240(BL) | TRANSISTOR |
| TR42 | 2730187013 | 2SC2240(BL) | TRANSISTOR |
| TR43 | 2710094016 | 2SA968(Y) | TRANSISTOR |
| TR44 | 2710094016 | 2SA968(Y) | TRANSISTOR |
| TR45 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR46 | 2730207003 | 2SC1845(F) | TRANSISTOR |
| TR47 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR48 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR49 | 2710111009 | 2SA992(F) | TRANSISTOR |
| TR50 | 2710111009 | 2SA992(F) | TRANSISTOR |
| D01 | 2760049008 | 1S2076 | DIODE |
| D02 | 2760049008 | 1S2076 | DIODE |
| D03 | 2760049008 | 1S2076 | DIODE |
| D04 | 2760049008 | 1S2076 | DIODE |
| D05 | 2760173000 | HZ6A | DIODE |
| D06 | 2760173000 | HZ6A | DIODE |
| D07 | 2760237001 | RV06 | DIODE |
| D08 | 2760237001 | RV06 | DIODE |
| D09 | 2760237001 | RV06 | DIODE |
| D10 | 2760237001 | RV06 | DIODE |

| Ref. No. | Part No. | Part Name & Descriptions | |
|-----------|------------|------------------------------------|----------------------|
| D11 | 2760049008 | 1S2076 | DIODE |
| D12 | 2760049008 | 1S2076 | DIODE |
| D13 | 2760049008 | 1S2076 | DIODE |
| D14 | 2760049008 | 1S2076 | DIODE |
| D15 | 2760173000 | HZ6A | DIODE |
| D16 | 2760173000 | HZ6A | DIODE |
| D17 | 2760200009 | MV-11 | DIODE |
| D18 | 2760200009 | MV-11 | DIODE |
| D19 | 2760237001 | RV06 | DIODE |
| D20 | 2760237001 | RV06 | DIODE |
| D21 | 2760200009 | MV-11 | DIODE |
| D22 | 2760200009 | MV-11 | DIODE |
| D23 | 3939040002 | TLG206 | LIGHT EMITTING DIODE |
| D24 | 3939040002 | TLG206 | LIGHT EMITTING DIODE |
| D25 | 3939040002 | TLG206 | LIGHT EMITTING DIODE |
| D26 | 3939040002 | TLG206 | LIGHT EMITTING DIODE |
| D27 | 3939040002 | TLG206 | LIGHT EMITTING DIODE |
| D30 | 3939032007 | TLR206 | LIGHT EMITTING DIODE |
| RESISTORS | | | |
| R01 | 2412211906 | 220 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R02 | 2412211906 | 220 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R05 | 2412268904 | 51 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R06 | 2412268904 | 51 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R07 | 2412179909 | 10 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R08 | 2412179909 | 10 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R09 | 2410178009 | 510 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R10 | 2410178009 | 510 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R11 | 2410178009 | 510 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R12 | 2410178009 | 510 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R13 | 2412215902 | 330 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R14 | 2412215902 | 330 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R15 | 2410202001 | 5.1 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R16 | 2410202001 | 5.1 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R17 | 2410202001 | 5.1 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R18 | 2410202001 | 5.1 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R19 | 2412310001 | 2.2 kohm \pm 5% 1W | CARBON FILM |
| R20 | 2412310001 | 2.2 kohm \pm 5% 1W | CARBON FILM |
| R21 | 2412281907 | 180 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R23 | 2412191903 | 33 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R25 | 2412251908 | 10 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R29 | 2412275900 | 100 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R30 | 2412275900 | 100 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R31 | 2412275900 | 100 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R32 | 2412275900 | 100 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R33 | 2412273902 | 82 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R34 | 2412273902 | 82 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R35 | 2410192001 | 2 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R36 | 2410192001 | 2 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R37 | 2442011040 | 20 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R38 | 2442011040 | 20 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R39 | 2442011011 | 1.5 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R40 | 2442011011 | 1.5 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R41 | 2420199007 | 4.7M ohm \pm 10% $\frac{1}{4}$ W | CARBON COMPOSIT |
| R42 | 2420199007 | 4.7M ohm \pm 10% $\frac{1}{4}$ W | CARBON COMPOSIT |
| R43 | 2412273902 | 82 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R44 | 2412273902 | 82 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R45 | 2412259900 | 22 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R46 | 2412259900 | 22 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R47 | 2412243903 | 4.7 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R48 | 2412243903 | 4.7 kohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R49 | 2412217900 | 390 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R50 | 2412217900 | 390 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R51 | 2410153008 | 47 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R52 | 2410153008 | 47 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R53 | 2410153008 | 47 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |
| R54 | 2410153008 | 47 ohm \pm 5% $\frac{1}{4}$ W | CARBON FILM |

(Con.)

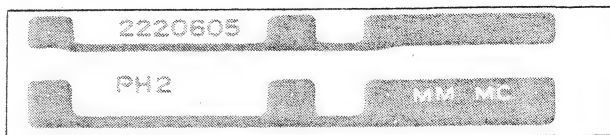
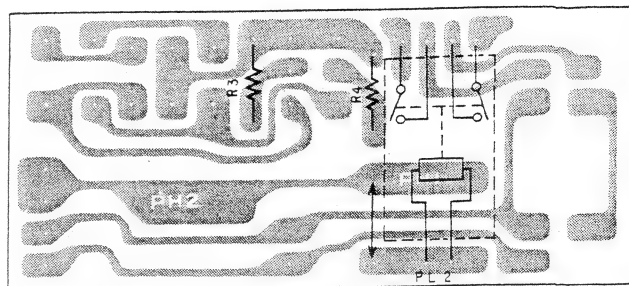
| Ref. No. | Part No. | Part Name & Descriptions |
|----------|------------|--|
| R55 | 2452011014 | 4.7 kohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R56 | 2452011014 | 4.7 kohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R57 | 2412262900 | 30 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R58 | 2412262900 | 30 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R59 | 2452019003 | 680 ohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R60 | 2452019003 | 680 ohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R61 | 2412299902 | 1M ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R62 | 2412299902 | 1M ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R63 | 2442012081 | 39 ohm $\pm 5\%$ $\frac{1}{2}W$ METAL OXIDE FILM |
| R64 | 2442012081 | 39 ohm $\pm 5\%$ $\frac{1}{2}W$ METAL OXIDE FILM |
| R65 | 2412211906 | 220 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R66 | 2412211906 | 220 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R67 | 2412211906 | 220 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R68 | 2412211906 | 220 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R69 | 2412275900 | 100 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R70 | 2412275900 | 100 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R71 | 2412273902 | 82 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R72 | 2412273902 | 82 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R73 | 2412257902 | 18 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R74 | 2412257902 | 18 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R75 | 2412209905 | 180 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R76 | 2412209905 | 180 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R79 | 2452011030 | 330 ohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R80 | 2452011030 | 330 ohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R81 | 2412244902 | 5.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R82 | 2412244902 | 5.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R83 | 2412244902 | 5.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R84 | 2412244902 | 5.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R85 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R86 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R87 | 2420198008 | 3.9M ohm $\pm 10\%$ $\frac{1}{2}W$ CARBON COMPOSIT |
| R88 | 2420198008 | 3.9M ohm $\pm 10\%$ $\frac{1}{2}W$ CARBON COMPOSIT |
| R89 | 2412203901 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R90 | 2412203901 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R91 | 2410192001 | 2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R92 | 2410192001 | 2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R93 | 2412203901 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R94 | 2412203901 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R95 | 2412265907 | 39 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R96 | 2412265907 | 39 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R97 | 2412240906 | 3.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R98 | 2412240906 | 3.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R99 | 2412236907 | 2.4 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R100 | 2412236907 | 2.4 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R101 | 2410153008 | 47 ohm $\pm 5\%$ $\frac{1}{2}W$ CARBON FILM |
| R102 | 2410153008 | 47 ohm $\pm 5\%$ $\frac{1}{2}W$ CARBON FILM |
| R103 | 2410153008 | 47 ohm $\pm 5\%$ $\frac{1}{2}W$ CARBON FILM |
| R104 | 2410153008 | 47 ohm $\pm 5\%$ $\frac{1}{2}W$ CARBON FILM |
| R105 | 2412191903 | 33 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R106 | 2412191903 | 33 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R107 | 2412275900 | 100 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R108 | 2412275900 | 100 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R109 | 2412244902 | 5.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R110 | 2412244902 | 5.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R111 | 2442012081 | 39 ohm $\pm 5\%$ $\frac{1}{2}W$ METAL OXIDE FILM |
| R112 | 2442012081 | 39 ohm $\pm 5\%$ $\frac{1}{2}W$ METAL OXIDE FILM |
| R115 | 2452011030 | 330 ohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R116 | 2452011030 | 330 ohm $\pm 1\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R117 | 2440043023 | 1.5 kohm $\pm 5\%$ 1W METAL OXIDE FILM |
| R119 | 2412082009 | 390 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R120 | 2412082009 | 390 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R121 | 2410192001 | 2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R122 | 2410192001 | 2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R123 | 2410192001 | 2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R124 | 2410192001 | 2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |

| Ref. No. | Part No. | Part Name & Descriptions |
|-------------|------------|--|
| CAPACITORS | | |
| C01 | 2556077006 | 120 pF $\pm 5\%$ 50V PLASTIC FILM |
| C02 | 2556077006 | 120 pF $\pm 5\%$ 50V PLASTIC FILM |
| C03 | 2556088008 | 360 pF $\pm 5\%$ 50V PLASTIC FILM |
| C04 | 2556088008 | 360 pF $\pm 5\%$ 50V PLASTIC FILM |
| C05 | 2544059007 | 100 μF 63V ELECTROLYTIC |
| C06 | 2544059007 | 100 μF 63V ELECTROLYTIC |
| C07 | 2549015004 | 22 μF $\pm 10\%$ 10V ELECTROLYTIC |
| C09 | 2544030000 | 330 μF 25V ELECTROLYTIC |
| C10 | | |
| C11 | 2556152028 | 24 pF $\pm 5\%$ 250V PLASTIC FILM |
| C12 | 2556152028 | 24 pF $\pm 5\%$ 250V PLASTIC FILM |
| C17 | 2544015009 | 10 μF 16V ELECTROLYTIC |
| C18 | 2544015009 | 10 μF 16V ELECTROLYTIC |
| C19 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C20 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C21 | 2544059010 | 220 μF 63V ELECTROLYTIC |
| C22 | 2544059010 | 220 μF 63V ELECTROLYTIC |
| C23 | 2554083021 | 0.47 μF $\pm 2\%$ 100V PLASTIC FILM |
| C24 | 2554083021 | 0.47 μF $\pm 2\%$ 100V PLASTIC FILM |
| C25 | 2554070092 | 0.15 μF $\pm 1\%$ 100V PLASTIC FILM |
| C26 | 2554070092 | 0.15 μF $\pm 1\%$ 100V PLASTIC FILM |
| C27 | 2554079048 | 0.01 μF $\pm 5\%$ 100V PLASTIC FILM |
| C28 | 2554079048 | 0.01 μF $\pm 5\%$ 100V PLASTIC FILM |
| C29 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C30 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C31 | 2544059010 | 220 μF 63V ELECTROLYTIC |
| C32 | 2544059010 | 220 μF 63V ELECTROLYTIC |
| C33 | 2556091008 | 470 pF $\pm 5\%$ 50V PLASTIC FILM |
| C34 | 2556091008 | 470 pF $\pm 5\%$ 50V PLASTIC FILM |
| C35 | 2544077021 | 100 μF 50V ELECTROLYTIC |
| C36 | 2544077021 | 100 μF 50V ELECTROLYTIC |
| C39 | 2556075008 | 100 pF $\pm 5\%$ 50V PLASTIC FILM |
| C40 | 2556075008 | 100 pF $\pm 5\%$ 50V PLASTIC FILM |
| C41 | 2556152086 | 33 pF $\pm 5\%$ 250V PLASTIC FILM |
| C42 | 2556152086 | 33 pF $\pm 5\%$ 250V PLASTIC FILM |
| C43 | 2544015009 | 10 μF 16V ELECTROLYTIC |
| C44 | 2544015009 | 10 μF 16V ELECTROLYTIC |
| C47 | 2544077021 | 100 μF 50V ELECTROLYTIC |
| C49 | 2556099000 | 0.001 μF $\pm 5\%$ 50V PLASTIC FILM |
| C50 | 2556099000 | 0.001 μF $\pm 5\%$ 50V PLASTIC FILM |
| C51 | 2554079048 | 0.01 μF $\pm 5\%$ 100V PLASTIC FILM |
| C52 | 2554079048 | 0.01 μF $\pm 5\%$ 100V PLASTIC FILM |
| C55 | 2544077021 | 100 μF 50V ELECTROLYTIC |
| C57 | 2554079048 | 0.01 μF $\pm 5\%$ 100V PLASTIC FILM |
| C58 | 2554079048 | 0.01 μF $\pm 5\%$ 100V PLASTIC FILM |
| C63 | 2544059081 | 10 μF 63V ELECTROLYTIC |
| C64 | 2544059081 | 10 μF 63V ELECTROLYTIC |
| C65 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C66 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C67 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C68 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C69 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C70 | 2544015009 | 10 μF 16V ELECTROLYTIC |
| C75 | 2561016007 | 0.068 μF $\pm 10\%$ 400V METALIZED |
| C76 | 2561016007 | 0.068 μF $\pm 10\%$ 400V METALIZED |
| C77 | 2561016007 | 0.068 μF $\pm 10\%$ 400V METALIZED |
| C78 | 2561016007 | 0.068 μF $\pm 10\%$ 400V METALIZED |
| OTHER PARTS | | |
| | 220579209 | P.W. BOARD |
| | 2050112056 | 5P CONNECTOR BASE |
| | 2050112030 | 3P CONNECTOR BASE |

(Con.)

| Ref. No. | Part No. | Part Name & Descriptions |
|--|------------|--|
| SW01 SW02 SW03 RL01 L01 L02 | 2090008133 | JUMPER SHORT LEAD P=7.5mm USED 2 |
| | 2090008120 | JUMPER SHORT LEAD P=10mm USED 25 |
| | 2090008117 | JUMPER SHORT LEAD P=12.5mm USED 2 |
| | 2090008104 | JUMPER SHORT LEAD P=15mm USED 7 |
| | 4140116106 | SHIELD COVER |
| | 2048050007 | 4P TERMINAL |
| | 2040061007 | 6P CONNECTOR BASE |
| | 2124205103 | 5P PUSH SWITCH |
| | 2124187001 | SLIDE SWITCH 4 CIRCUIT 3 POSITION |
| | 2124187001 | SLIDE SWITCH 4 CIRCUIT 3 POSITION |
| | 2140039007 | RELAY |
| | 4170124003 | MINI RADIATOR FOR TR21, 22, 23, 24 |
| | 4730354035 | TAPPING SCREW (2) 3x8 BLACK FOR TR21, 22, 23, 24 |
| | 2318017000 | INDUCTOR |
| | 2318017000 | INDUCTOR |
| RL02 | 2034119088 | 3P CONTACT WIRE ASS FOR EQ OUTPUT |
| | 2034119033 | 3P CONTACT WIRE ASS FOR EQ OUTPUT |
| | 2034141014 | 3P CONTACT WIRE ASS FOR EQ INPUT |
| | 2034119091 | 3P CONTACT WIRE ASS FOR PH-2 |
| | 2034145007 | 3P CONTACT WIRE ASS FOR TUNER |
| | 2034145010 | 3P CONTACT WIRE ASS FOR AUX |
| | 2034140015 | 3P CONTACT WIRE ASS FOR TAPE |
| | 2140015005 | REED RELAY |

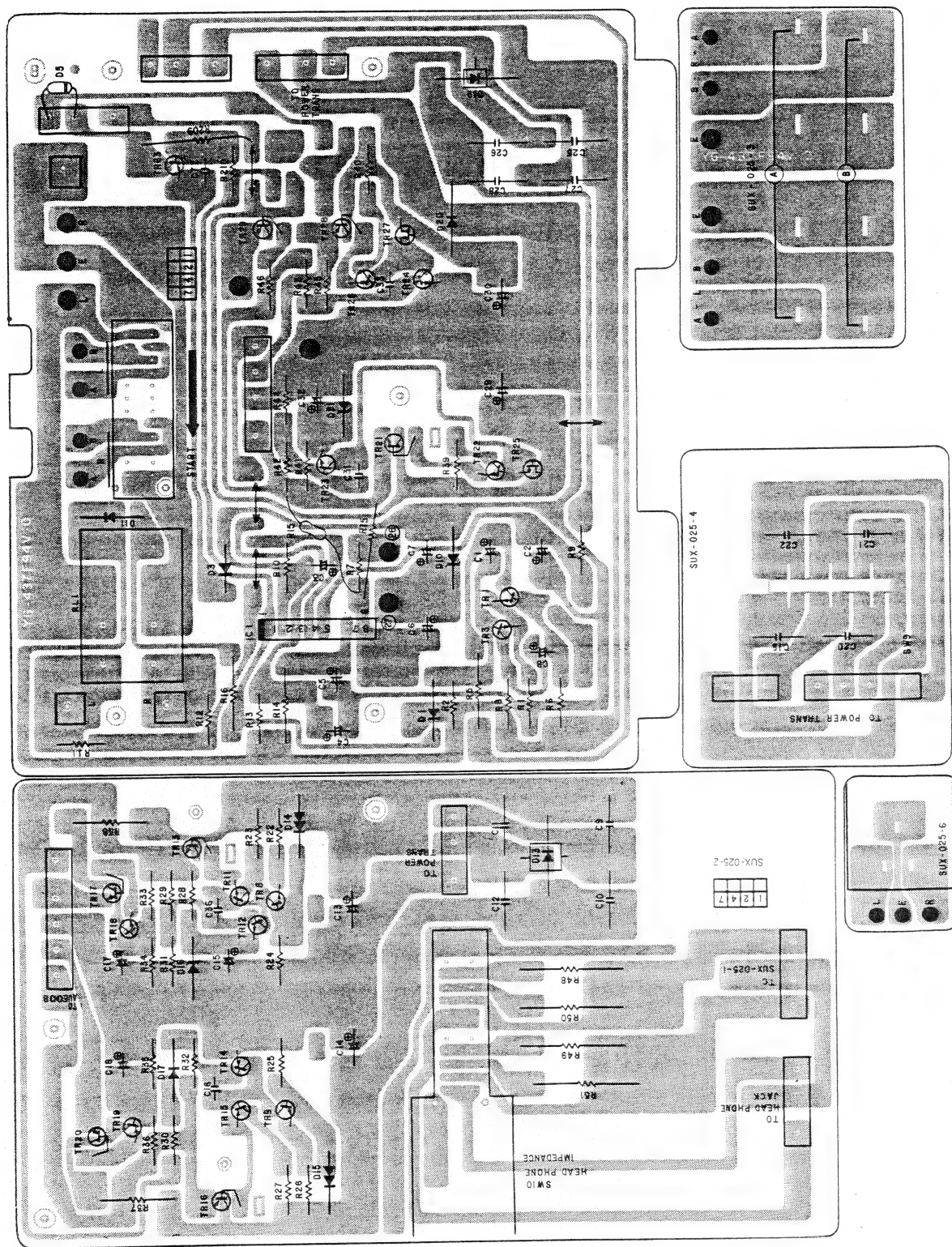
EQ. MUTING UNIT (included SUX-025)



EQ. MUTING UNIT PARTS LIST

| Ref. No. | Part No. | Part Name & Descriptions |
|----------|------------|--|
| GENERAL | | |
| | 2220605004 | P.W. BOARD |
| RL02 | 2090008120 | JUMPER SHORT LEAD P=10mm USED 1 |
| | 2140015005 | REED RELAY |
| R03 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R04 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| C15 | 2541035011 | 2.2 μF $\pm 20\%$ 35V PLASTIC FILM |
| C16 | 2541035011 | 2.2 μF $\pm 20\%$ 35V PLASTIC FILM |
| C61 | 2541035011 | 0.47 μF $\pm 10\%$ 250V METALIZED |
| C62 | 2541035011 | 0.47 μF $\pm 10\%$ 250V METALIZED |

SUX-025 POWER SUPPLY UNIT



NOTE:
 1. Refer to pattern side for D5 (1S2076A) and R15 (4B2E914).
 2. Color indications for terminals 26, 27 on the SUX-025-1 board are contrary. Actually the terminals 26 - yellow and 27 - white.
 3. Color indications for SUX-025-6 board red, white are contrary. Actually, white, red.

SUX-025 PARTS LIST

| Ref. No. | Part No. | Part Name & Descriptions |
|----------------|------------|-----------------------------|
| SEMICONDUCTORS | | |
| IC01 | 2630102004 | HA12002W INTEGRATED CIRCUIT |
| TR01 | 2730198015 | 2SC1815(BL) TRANSISTOR |
| TR03 | 2730198015 | 2SC1815(BL) TRANSISTOR |
| TR07 | 2730177007 | 2SC1626(Y) TRANSISTOR |

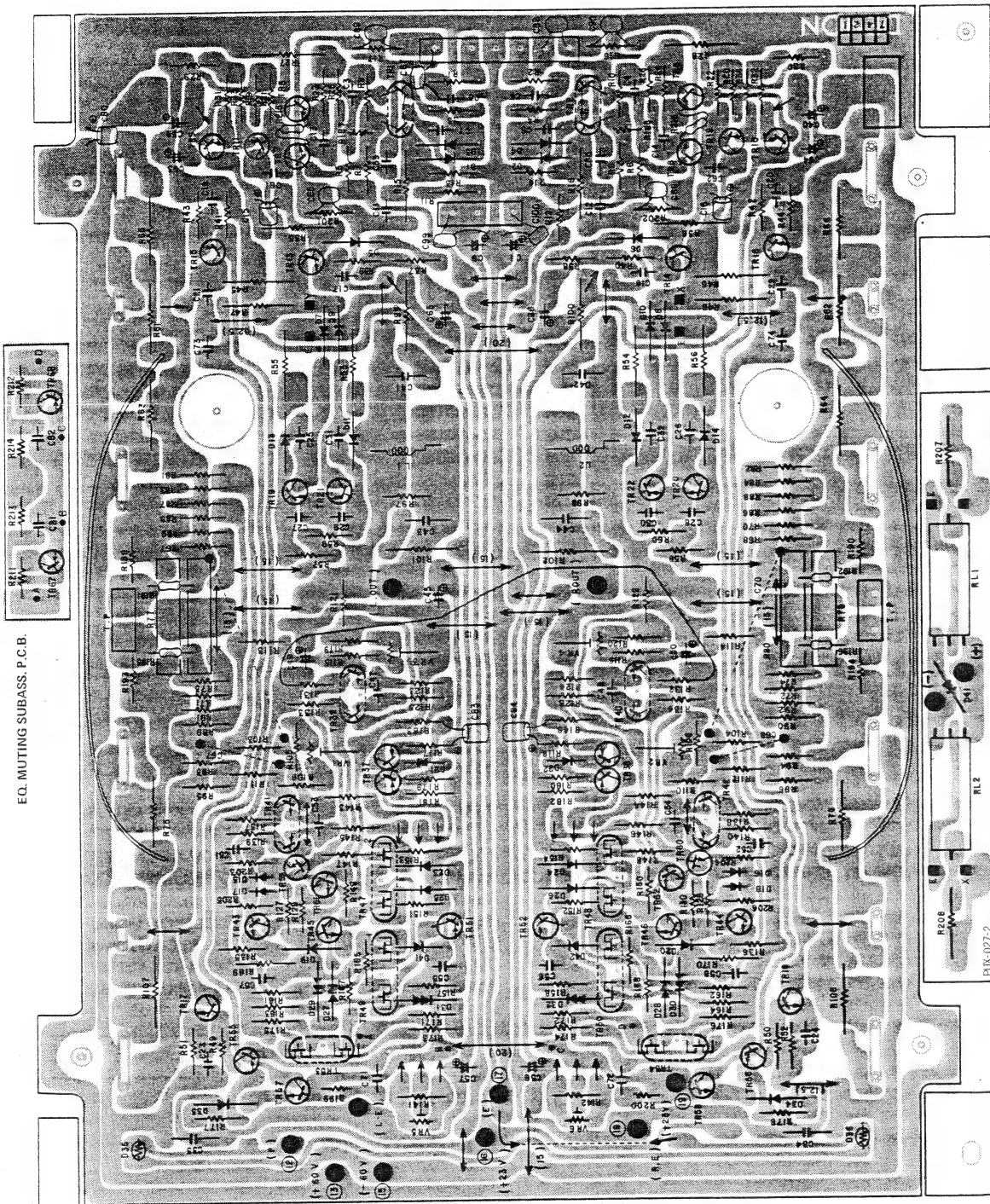
| Ref. No. | Part No. | Part Name & Descriptions |
|----------|------------|-----------------------------|
| TR08 | 2710094032 | 2SA970(BL)/(GR) TRANSISTOR |
| TR09 | 2730187039 | 2SC2240(BL)/(GR) TRANSISTOR |
| TR11 | 2730187039 | 2SC2240(BL)/(GR) TRANSISTOR |
| TR12 | 2730187039 | 2SC2240(BL)/(GR) TRANSISTOR |
| TR13 | 2740044036 | 2SD478(C)/(ID) TRANSISTOR |
| TR14 | 2710094032 | 2SA970(BL)/(GR) TRANSISTOR |

SUX-025 PARTS LIST

| Ref. No. | Part No. | Part Name & Descriptions |
|-----------|------------|---|
| TR15 | 2710094032 | 2SA970(BL)/(GR) TRANSISTOR |
| TR16 | 2720031027 | 2SB568(C)/(D) TRANSISTOR |
| TR18 | 2730187039 | 2SC2240(BL)/(GR) TRANSISTOR |
| TR19 | 2710094032 | 2SA970(BL)/(GR) TRANSISTOR |
| TR20 | 2710088006 | 2SA816(Y) TRANSISTOR |
| TR21 | 2730177007 | 2SC1626(Y) TRANSISTOR |
| TR22 | 2730198031 | 2SC1815(BL)/(GR) TRANSISTOR |
| TR23 | 2730198031 | 2SC1815(BL)/(GR) TRANSISTOR |
| TR24 | 2710102005 | 2SA1015(Y) TRANSISTOR |
| TR25 | 2750018007 | 2SK30A(R) FIELD EFFECT TRANSISTOR |
| TR26 | 2710102005 | 2SA1015(Y) TRANSISTOR |
| TR27 | 2750018007 | 2SK30A(R) FIELD EFFECT TRANSISTOR |
| TR28 | 2710088006 | 2SA816(Y) TRANSISTOR |
| TR29 | 2730177007 | 2SC1626(Y) TRANSISTOR |
| TR63 | 2730198002 | 2SC1815(Y) TRANSISTOR |
| D01 | 2760049011 | 1S2076A DIODE |
| D03 | 2760254000 | HZ7B-3 DIODE |
| D05 | 2760049011 | 1S2076A DIODE |
| D10 | 2760244007 | MZ303A DIODE |
| D11 | 2760237001 | RV06 DIODE |
| D13 | 2760239009 | S1RBA20F DIODE |
| D14 | 2760200009 | MV-11 DIODE |
| D15 | 2760200009 | MV-11 DIODE |
| D16 | 2760220018 | HZ24-1 DIODE |
| D17 | 2760049008 | 1S2076 DIODE |
| D19 | 2760239009 | S1RBA20F DIODE |
| D20 | 2760158009 | W06A DIODE |
| D21 | 2760253001 | HZ15-2 DIODE |
| RESISTORS | | |
| R01 | 2412219908 | 470 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R02 | 2412286902 | 300 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R05 | 2440045021 | 2.2 kohm $\pm 5\%$ 1W METAL OXIDE FILM |
| R06 | 2412286902 | 300 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R07 | 2412179909 | 10 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R08 | 2412247909 | 6.8 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R09 | 2412243903 | 4.7 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R10 | 2412251908 | 10 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R11 | 2412264908 | 36 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R12 | 2412264908 | 36 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R13 | 2412287901 | 330 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R14 | 2440042024 | 1.2 kohm $\pm 5\%$ 1W METAL OXIDE FILM |
| R15 | 2412163009 | 910 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R16 | 2440032021 | 180 ohm $\pm 5\%$ 1W METAL OXIDE FILM |
| R22 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R23 | 2412219908 | 470 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R24 | 2412261901 | 27 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R25 | 2412261901 | 27 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R26 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R27 | 2412219908 | 470 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R28 | 2412261901 | 27 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R29 | 2412264908 | 36 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R30 | 2412268904 | 51 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R31 | 2412260902 | 24 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R32 | 2412268904 | 51 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R33 | 2412259900 | 22 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R34 | 2412261901 | 27 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R35 | 2412261901 | 27 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R36 | 2412259900 | 22 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R37 | 2440041025 | 1 kohm $\pm 5\%$ 1W METAL OXIDE FILM |
| R38 | 2440041025 | 1 kohm 1W METAL OXIDE FILM |
| R39 | 2412219908 | 470 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R40 | 2412219908 | 470 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R41 | 2412249907 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R42 | 2412248908 | 7.5 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R43 | 2412260902 | 24 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |

| Ref. No. | Part No. | Part Name & Descriptions |
|-------------|------------|--|
| R44 | 2412255904 | 15 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R45 | 2412259900 | 22 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R46 | 2412219908 | 470 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R48 | 2440087021 | 120 ohm $\pm 5\%$ 2W METAL OXIDE FILM |
| R49 | 2440087021 | 120 ohm $\pm 5\%$ 2W METAL OXIDE FILM |
| R50 | 2440078027 | 22 ohm $\pm 5\%$ 2W METAL OXIDE FILM |
| R51 | 2440078027 | 22 ohm $\pm 5\%$ 2W METAL OXIDE FILM |
| R200 | 2412275900 | 100 kohm $\pm 5\%$ 2W METAL OXIDE FILM |
| CAPACITORS | | |
| C01 | 2544034006 | 4.7 μF 35V ELECTROLYTIC |
| C02 | 2544066003 | 2.2 μF 50V ELECTROLYTIC |
| C03 | 2544005006 | 330 μF 6.3V ELECTROLYTIC |
| C04 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C05 | 2544035005 | 10 μF 35V ELECTROLYTIC |
| C06 | 2549015017 | 47 μF $\pm 10\%$ 10V ELECTROLYTIC |
| C07 | 2549015017 | 47 μF $\pm 10\%$ 10V ELECTROLYTIC |
| C08 | 2544034006 | 4.7 μF 35V ELECTROLYTIC |
| C09 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C10 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C11 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C12 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C13 | 2546037001 | 470 μF 100V ELECTROLYTIC |
| C14 | 2546037001 | 470 μF 100V ELECTROLYTIC |
| C15 | 2544027000 | 47 μF 25V ELECTROLYTIC |
| C16 | 2521018003 | 22 pF $\pm 10\%$ 50V MICA FILM |
| C17 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C18 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C19 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C20 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C21 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C22 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C25 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C26 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C27 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C28 | 2561017019 | 0.01 μF $\pm 10\%$ 630V METALIZED |
| C29 | 2544065017 | 2200 μF 35V ELECTROLYTIC |
| C30 | 2544041002 | 470 μF 35V ELECTROLYTIC |
| C31 | 2521018003 | 22 pF $\pm 10\%$ 50V MICA FILM |
| C32 | 2544017007 | 47 μF 16V ELECTROLYTIC |
| C33 | 2521018003 | 22 pF $\pm 10\%$ 16V MICA FILM |
| C36 | 2521018003 | 22 pF $\pm 10\%$ 16V MICA FILM |
| C77 | 2531004007 | 0.001 μF $\pm 10\%$ 50V CERAMIC |
| OTHER PARTS | | |
| | 2220576105 | P.W. BOARD |
| | 2050112030 | 3P CONNECTOR BASE |
| | 2050112043 | 4P CONNECTOR BASE |
| | 2050112056 | 5P CONNECTOR BASE |
| | 2032068005 | 2P CONNECTOR |
| | 2036079003 | 4P CONNECTOR BASE |
| | EP-6071 | BASE PIN |
| RL01 | 2140041008 | RELAY |
| | 2090008120 | JUMPER SHORT LEAD P=10mm USED 2 |
| SW09 | 2124207004 | SLIDE SWITCH (POWER) |
| SW10 | 2120160006 | ROTARY SWITCH (B) |
| SW11 | 2124206005 | SLIDE SWITCH (REMOTE) |
| | 2050070004 | 8P TERMINAL |
| | 2048047007 | HEAD PHONE JACK |
| | 4170021009 | RADIATOR FOR TR16, TR13 |
| | 4730354019 | TAPPING SCREW |
| | 2034138014 | 3P CONNECTOR CORD FOR I.P. JACK |
| | 2034131037 | 3P CONNECTOR CORD FOR I.P. SWITCH |
| | 2038086007 | 5P CONNECTOR CORD FOR I.D. MUT. |

PUX-027B POWER AMP UNIT



- NOTE:**
Please be noted the following difference between the print on the PUX-027B P.C. Board and actual parts utilized.
- Instead of R155 and R156, D41 and D42 (Hz24-1) are employed.
 - Polarity of C91, C92 is reversed.
 - R181, R182 portion is using sub-processed component
 - Refer to pattern side for R191, 192, 195, 196 (Carbon Film 100 ohm $\pm 5\%$), R215, 216 (Carbon Film 47 ohm $\pm 5\%$), C83, 84 (Electrolytic 4.7 μ /25V), C80 (Electrolytic 0.47 μ /100V), C85, 86 (Mica Film 1pF/50V $\pm 0.25\%$), C89, 90 (Mica Film 5pF/50V $\pm 0.5\%$), C87, 88 (Mica Film 15pF/50V $\pm 5\%$), C15, 16 (Electrolytic 1 μ F/100V), C99, 100 (Metalized 0.01 μ F/630V $\pm 5\%$).
- The lead in the center of TR37~TR42 (MPA-77V) must be cut off entirely before inserting to the board.



PUX-027B PARTS LIST

| Ref. No. | Part No. | Part Name & Descriptions | |
|----------------|------------|-----------------------------------|------------|
| SEMICONDUCTORS | | | |
| TR01 | 2730181019 | 2SC1583(G)/(F) | TRANSISTOR |
| TR02 | 2730181019 | 2SC1583(G)/(F) | TRANSISTOR |
| TR05 | 2730235004 | 2SC1841(F) | TRANSISTOR |
| TR06 | 2730235004 | 2SC1841(F) | TRANSISTOR |
| TR07 | 2730235004 | 2SC1841(F) | TRANSISTOR |
| TR08 | 2730235004 | 2SC1841(F) | TRANSISTOR |
| TR09 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR10 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR11 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR12 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR13 | 2730205005 | 2SC1941(L) | TRANSISTOR |
| TR14 | 2730205005 | 2SC1941(L) | TRANSISTOR |
| TR15 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR16 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR17 | 2730205005 | 2SC1941(L) | TRANSISTOR |
| TR18 | 2730205005 | 2SC1941(L) | TRANSISTOR |
| TR19 | 2730212001 | 2SC2655(Y) | TRANSISTOR |
| TR20 | 2730212001 | 2SC2655(Y) | TRANSISTOR |
| TR21 | 2710117003 | 2SA1020(Y) | TRANSISTOR |
| TR22 | 2710117003 | 2SA1020(Y) | TRANSISTOR |
| TR37 | 2710115005 | 2SA995(G) | TRANSISTOR |
| TR38 | 2710115005 | 2SA995(G) | TRANSISTOR |
| TR39 | 2710126036 | μPA-77V(F)/(E) | TRANSISTOR |
| R40 | 2710126036 | μPA-77V(F)/(E) | TRANSISTOR |
| TR41 | 2710126036 | μPA-77V(F)/(E) | TRANSISTOR |
| TR42 | 2710126036 | μPA-77V(F)/(E) | TRANSISTOR |
| TR43 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR44 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR45 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR46 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR47 | 2750024020 | μPA68H(M) FIELD EFFECT TRANSISTOR | |
| TR48 | 2750024020 | μPA68H(M) FIELD EFFECT TRANSISTOR | |
| TR49 | 2750024020 | μPA68H(M) FIELD EFFECT TRANSISTOR | |
| TR50 | 2750024020 | μPA68H(M) FIELD EFFECT TRANSISTOR | |
| TR51 | 2710102005 | 2SA1015(Y)FIELD EFFECT TRANSISTOR | |
| TR52 | 2710102005 | 2SA1015(Y)FIELD EFFECT TRANSISTOR | |
| TR53 | 2750024020 | μPA68H(M) FIELD EFFECT TRANSISTOR | |
| TR54 | 2750024020 | μPA68H(M) FIELD EFFECT TRANSISTOR | |
| TR55 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR56 | 2710110000 | 2SA916(L) | TRANSISTOR |
| TR57 | 2730205005 | 2SC1941(L) | TRANSISTOR |
| TR58 | 2730205005 | 2SC1941(L) | TRANSISTOR |
| TR67 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR68 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| D01 | 2760049008 | 1S2076 | DIODE |
| D02 | 2760049008 | 1S2076 | DIODE |
| D03 | 2760049008 | 1S2076 | DIODE |
| D04 | 2760049008 | 1S2076 | DIODE |
| D05 | 2760171028 | HV-23G(YL) | DIODE |
| D06 | 2760171028 | HV-23G(YL) | DIODE |
| D07 | 2760049011 | 1S2076A | DIODE |
| D08 | 2760049011 | 1S2076A | DIODE |
| D09 | 2760049011 | 1S2076A | DIODE |
| D10 | 2760049011 | 1S2076A | DIODE |
| D11 | 2760049011 | 1S2076A | DIODE |
| D12 | 2760049011 | 1S2076A | DIODE |
| D13 | 2760049011 | 1S2076A | DIODE |
| D14 | 2760049011 | 1S2076A | DIODE |
| D15 | 2760049008 | 1S2076 | DIODE |
| D16 | 2760049008 | 1S2076 | DIODE |
| D17 | 2760049008 | 1S2076 | DIODE |
| D18 | 2760049008 | 1S2076 | DIODE |
| D19 | 2760049008 | 1S2076 | DIODE |
| D20 | 2760049008 | 1S2076 | DIODE |
| D21 | 2760049008 | 1S2076 | DIODE |
| D22 | 2760049008 | 1S2076 | DIODE |
| D23 | 2760049008 | 1S2076 | DIODE |
| D24 | 2760049008 | 1S2076 | DIODE |
| D25 | 2760049008 | 1S2076 | DIODE |
| D26 | 2760049008 | 1S2076 | DIODE |
| D27 | 2760200009 | MV-11 | DIODE |
| D28 | 2760200009 | MV-11 | DIODE |
| D29 | 2760200009 | MV-11 | DIODE |
| D30 | 2760200009 | MV-11 | DIODE |
| D31 | 2760253001 | HZ15-2 | DIODE |
| D32 | 2760253001 | HZ15-2 | DIODE |

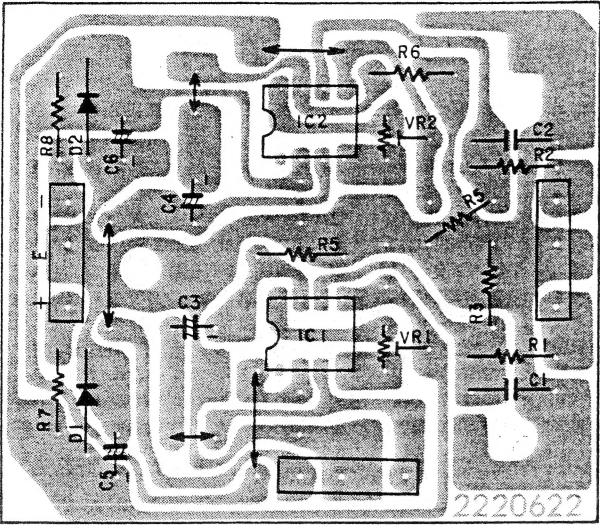
| Ref. No. | Part No. | Part Name & Descriptions | |
|-----------|------------|------------------------------------|------------------|
| D33 | 2760253001 | HZ15-2 | DIODE |
| D34 | 2760253001 | HZ-15-2 | DIODE |
| D41 | 2760049011 | 1S2076A | DIODE |
| D41 | 2760220018 | HZ-24-1 | DIODE |
| D42 | 2760220018 | HZ-24-1 | DIODE |
| D43 | 2760200009 | MV-11 | DIODE |
| D44 | 2760200009 | MV-11 | DIODE |
| RESISTORS | | | |
| R05 | 2412012095 | 2.2 kohm \pm 2% $\frac{1}{4}$ W | CARBON FILM |
| R06 | 2412012095 | 2.2 kohm \pm 2% $\frac{1}{4}$ W | CARBON FILM |
| R07 | 2412012095 | 2.2 kohm \pm 2% $\frac{1}{4}$ W | CARBON FILM |
| R08 | 2412012095 | 2.2 kohm \pm 2% $\frac{1}{4}$ W | CARBON FILM |
| R13 | 2442021085 | 360 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R14 | 2442021085 | 360 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R15 | 2452014040 | 10 kohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R16 | 2452014040 | 10 kohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R17 | 2420203003 | 10M ohm \pm 10% $\frac{1}{4}$ W | CARBON COMPOSIT |
| R18 | 2420203003 | 10M ohm \pm 10% $\frac{1}{4}$ W | CARBON COMPOSIT |
| R19 | 2442021069 | 240 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R20 | 2442021069 | 240 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R21 | 2442021069 | 240 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R22 | 2442021069 | 240 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R27 | 2442013022 | 1.3 kohm \pm 5% 1W | METAL OXIDE FILM |
| R28 | 2442013022 | 1.3 kohm \pm 5% 1W | METAL OXIDE FILM |
| R29 | 2442021072 | 51 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R30 | 2442021072 | 51 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R35 | 2440050029 | 5.6 kohm \pm 5% 1W | METAL OXIDE FILM |
| R36 | 2440050029 | 5.6 kohm \pm 5% 1W | METAL OXIDE FILM |
| R39 | 2412068007 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R40 | 2412068007 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R45 | 2440033020 | 220 ohm \pm 5% 1W | METAL OXIDE FILM |
| R46 | 2440033020 | 220 ohm \pm 5% 1W | METAL OXIDE FILM |
| R47 | 2440033020 | 220 ohm \pm 5% 1W | METAL OXIDE FILM |
| R48 | 2440033020 | 220 ohm \pm 5% 1W | METAL OXIDE FILM |
| R53 | 2440041025 | 1 kohm \pm 5% 1W | METAL OXIDE FILM |
| R54 | 2440041025 | 1 kohm \pm 5% 1W | METAL OXIDE FILM |
| R55 | 2440041025 | 1 kohm \pm 5% 1W | METAL OXIDE FILM |
| R56 | 2440041025 | 1 kohm \pm 5% 1W | METAL OXIDE FILM |
| R61 | 2440029021 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R62 | 2440029021 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R63 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R64 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R65 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R66 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R67 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R68 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R69 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R70 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R71 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R72 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R73 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R74 | 2442007070 | 39 ohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R75 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R76 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R77 | 2432029000 | 1 ohm/1 ohm \pm 5% 1W WIRE WOUND | |
| R78 | 2432029000 | 1 ohm/1 ohm \pm 5% 1W WIRE WOUND | |
| R79 | 2432029000 | 1 ohm/1 ohm \pm 5% 1W WIRE WOUND | |
| R80 | 2432029000 | 1 ohm/1 ohm \pm 5% 1W WIRE WOUND | |
| R85 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R86 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R87 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R88 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R89 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R90 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R91 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R92 | 2442007038 | 100 ohm \pm 5% 1W | METAL OXIDE FILM |
| R99 | 2440022028 | 27 ohm \pm 5% 1W | METAL OXIDE FILM |
| R100 | 2440022028 | 27 ohm \pm 5% 1W | METAL OXIDE FILM |
| R101 | 2440017020 | 10 ohm \pm 5% 1W | METAL OXIDE FILM |
| R102 | 2440017020 | 10 ohm \pm 5% 1W | METAL OXIDE FILM |
| R103 | 2452014024 | 8.2 kohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R104 | 2452014024 | 8.2 kohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R105 | 2452014037 | 1.8 kohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R106 | 2452014037 | 1.8 kohm \pm 5% $\frac{1}{4}$ W | METAL OXIDE FILM |
| R107 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |
| R108 | 2440013024 | 4.7 ohm \pm 5% 1W | METAL OXIDE FILM |

(Con.)

| Ref. No. | Part No. | Part Name & Descriptions |
|-------------------|------------|--|
| R109 | 2452014037 | 1.8 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R110 | 2452014037 | 1.8 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R111 | 2452014024 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R112 | 2452014024 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R113 | 2452014024 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R114 | 2452014024 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R115 | 2452014037 | 1.8 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R116 | 2452014037 | 1.8 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R119 | 2452014037 | 1.8 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R120 | 2452014037 | 1.8 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R121 | 2452014024 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R122 | 2452014024 | 8.2 kohm $\pm 5\%$ $\frac{1}{4}W$ METAL OXIDE FILM |
| R169 | 2420203003 | 10M ohm $\pm 10\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R170 | 2420203003 | 10M ohm $\pm 10\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R181 | 2412094000 | 1.2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R182 | 2412094000 | 1.2 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R187 | 2412002005 | 220 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| | | STANDING TYPE |
| R118 | 2412002005 | 220 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| | | STANDING TYPE |
| R191 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R192 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R195 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R196 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R199 | 2412028021 | 1.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| | | STANDING TYPE |
| R200 | 2412028021 | 1.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| | | STANDING TYPE |
| R201 | 2420203003 | 10M ohm $\pm 10\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R202 | 2420203003 | 10M ohm $\pm 10\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R207 | 2440042024 | 1.2 kohm $\pm 5\%$ $1W$ METAL OXIDE FILM |
| R208 | 2440042024 | 1.2 kohm $\pm 5\%$ $1W$ METAL OXIDE FILM |
| R211 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R212 | 2412068007 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R213 | 2412140006 | 100 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R214 | 2412140006 | 100 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R215 | 2412060005 | 47 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R216 | 2412060005 | 47 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R241 | 2412108006 | 4.7 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R242 | 2412108006 | 4.7 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R243 | 2412079009 | 300 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R244 | 2412079009 | 300 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| CAPACITORS | | |
| C01 | 2544038002 | 100 μF 35V ELECTROLYTIC |
| C03 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C04 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C05 | 2556075008 | 100 pF $\pm 5\%$ 50V PLASTIC FILM |
| C06 | 2556075008 | 100 pF $\pm 5\%$ 50V PLASTIC FILM |
| C07 | 2554084004 | 0.0022 μF $\pm 5\%$ 100V PLASTIC FILM |
| C08 | 2554084004 | 0.0022 μF $\pm 5\%$ 100V PLASTIC FILM |
| C09 | 2544038002 | 100 μF 35V ELECTROLYTIC |
| C11 | 2521008000 | 8 pF ± 0.5 pF 50V MICA FILM |
| C12 | 2521008000 | 8 pF ± 0.5 pF 50V MICA FILM |
| C13 | 2521018003 | 22 pF $\pm 5\%$ 50V MICA FILM |
| C14 | 2521018003 | 22 pF $\pm 5\%$ 50V MICA FILM |
| C15 | 2544060025 | 1 μF 100V ELECTROLYTIC |
| C16 | 2544060025 | 1 μF 100V ELECTROLYTIC |
| C17 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C18 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C19 | 2521050003 | 470 pF $\pm 5\%$ 50V MICA FILM |
| C20 | 2521050003 | 470 pF $\pm 5\%$ 50V MICA FILM |
| C21 | 2554077008 | 0.001 μF $\pm 5\%$ 100V PLASTIC FILM |
| C22 | 2554077008 | 0.001 μF $\pm 5\%$ 100V PLASTIC FILM |
| C23 | 2521050003 | 470 pF $\pm 5\%$ 50V MICA FILM |
| C24 | 2521050003 | 470 pF $\pm 5\%$ 50V MICA FILM |
| C25 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C26 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C27 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C28 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C29 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C30 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C31 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C32 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C33 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |
| C34 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |
| C39 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |

| Ref. No. | Part No. | Part Name & Descriptions |
|--------------------|--------------|--|
| C40 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |
| C41 | 2561017019 | 0.01 μF 10% 630V METALIZED |
| C42 | 2561017019 | 0.01 μF 10% 630V METALIZED |
| C43 | 2561017035 | 0.022 μF 10% 630V METALIZED |
| C44 | 2561017035 | 0.022 μF 10% 630V METALIZED |
| C45 | 2544035005 | 10 μF 35V ELECTROLYTIC |
| C47 | 2521046004 | 330 pF 5% 50V MICA FILM |
| C48 | 2521046004 | 330 pF 5% 50V MICA FILM |
| C49 | 2544035005 | 10 μF 35V ELECTROLYTIC |
| C50 | 2544035005 | 10 μF 35V ELECTROLYTIC |
| C51 | 2521050003 | 470 pF 5% 50V MICA FILM |
| C52 | 2521050003 | 470 pF 5% 50V MICA FILM |
| C53 | 2521042008 | 220 pF 5% 50V MICA FILM |
| C54 | 2521042008 | 220 pF 5% 50V MICA FILM |
| C55 | 2521022002 | 33 pF 5% 50V MICA FILM |
| C56 | 2521022002 | 33 pF 5% 50V MICA FILM |
| C57 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C58 | 2554078065 | 0.0047 μF $\pm 5\%$ 100V PLASTIC FILM |
| C59 | 2521010001 | 10 pF 0.5 pF 50V MICA FILM |
| C60 | 2521010001 | 10 pF 0.5 pF 50V MICA FILM |
| C61 | 2521081027 | 3 pF 0.5 pF 50V MICA FILM |
| C62 | 2521081027 | 3 pF 0.5 pF 50V MICA FILM |
| C63 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |
| C64 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |
| C65 | 2544060025 | 1 μF 100V ELECTROLYTIC |
| C66 | 2544060025 | 1 μF 100V ELECTROLYTIC |
| C71 | 2521042008 | 220 pF 5% 50V MICA FILM |
| C72 | 2521042008 | 220 pF 5% 50V MICA FILM |
| C73 | 2554077008 | 0.001 μF 5% 100V PLASTIC FILM |
| C74 | 2554077008 | 0.001 μF 5% 100V PLASTIC FILM |
| C80 | 2544060038 | 0.47 μF 100V ELECTROLYTIC |
| C81 | 2554077008 | 0.001 μF 5% 100V PLASTIC FILM |
| C82 | 2554077008 | 0.001 μF 5% 100V PLASTIC FILM |
| C83 | 2544024003 | 4.7 μF 25V ELECTROLYTIC |
| C84 | 2544024003 | 4.7 μF 25V ELECTROLYTIC |
| C85 | 2521001007 | 1 pF 0.25 pF 50V MICA FILM |
| C86 | 2521001007 | 1 pF 0.25 pF 50V MICA FILM |
| C87 | 2521014007 | 15 pF 5% 50V MICA FILM |
| C88 | 2521014007 | 15 pF 5% 50V MICA FILM |
| C89 | 2521005003 | 5 pF 0.5 pF 50V MICA FILM |
| C90 | 2521005003 | 5 pF 0.5 pF 50V MICA FILM |
| C99 | 2561017019 | 0.01 μF 10% 630V METALIZED |
| C100 | 2561017019 | 0.01 μF 10% 630V METALIZED |
| OTHER PARTS | | |
| | 2220577201 | P.W. BOARD |
| | — | MUTING BOARD SUB ASS (SEE TABLE) |
| | 2050126000 | TERMINAL USED 4 |
| | 2090008146 | JUMPER SHORT LEAD P=5mm USED 4 |
| | 2090008133 | JUMPER SHORT LEAD P=7.5mm USED 1 |
| | 2090008120 | JUMPER SHORT LEAD P=10mm USED 10 |
| | 2090008117 | JUMPER SHORT LEAD P=12.5mm USED 3 |
| | 2090008104 | JUMPER SHORT LEAD P=15mm USED 3 |
| | 2090008162 | JUMPER SHORT LEAD P=20mm USED 4 |
| VR01 | 2116025016 | SEMI FIXED RESISTOR 100 OHM |
| VR02 | 2116025016 | SEMI FIXED RESISTOR 100 OHM |
| VR03 | 2116025016 | SEMI FIXED RESISTOR 100 OHM |
| VR04 | 2116025016 | SEMI FIXED RESISTOR 100 OHM |
| VR05 | 2116027001 | SEMI FIXED RESISTOR 1 KOHM |
| VR06 | 2116027001 | SEMI FIXED RESISTOR 1 KOHM |
| RL01 | 2140029004 | REED RELAY DC24V OPERAT. |
| RL02 | 2140029004 | REED RELAY DC24V OPERAT. |
| L01 | 2320017001 | INDUCTOR |
| L02 | 2320017001 | INDUCTOR |
| | 2050087026 | 2P TERMINAL FOR TEST POINT |
| | 2050112030 | 3P CONNECTOR BASE |
| | 2050112069 | 6P CONNECTOR BASE |
| | 2034139013 | 3P CONNECTOR CORD FOR RESISTOR |
| | 2036064089 | 4P CONNECTOR CORD FOR —B |
| | 2030221006 | 1P CONNECTOR CORD FOR 1CH SP OUT |
| | 2030221019 | 1P CONNECTOR CORD FOR 1CH SP OUT |
| | 2036081004 | 4P CONNECTOR CORD FOR 4CH SP OUT |
| | Muting Board | P.W. BOARD |
| | 2220601009 | TERMINAL |
| | 2050126000 | TERMINAL |

EQ. SERVO UNIT (PA-122)

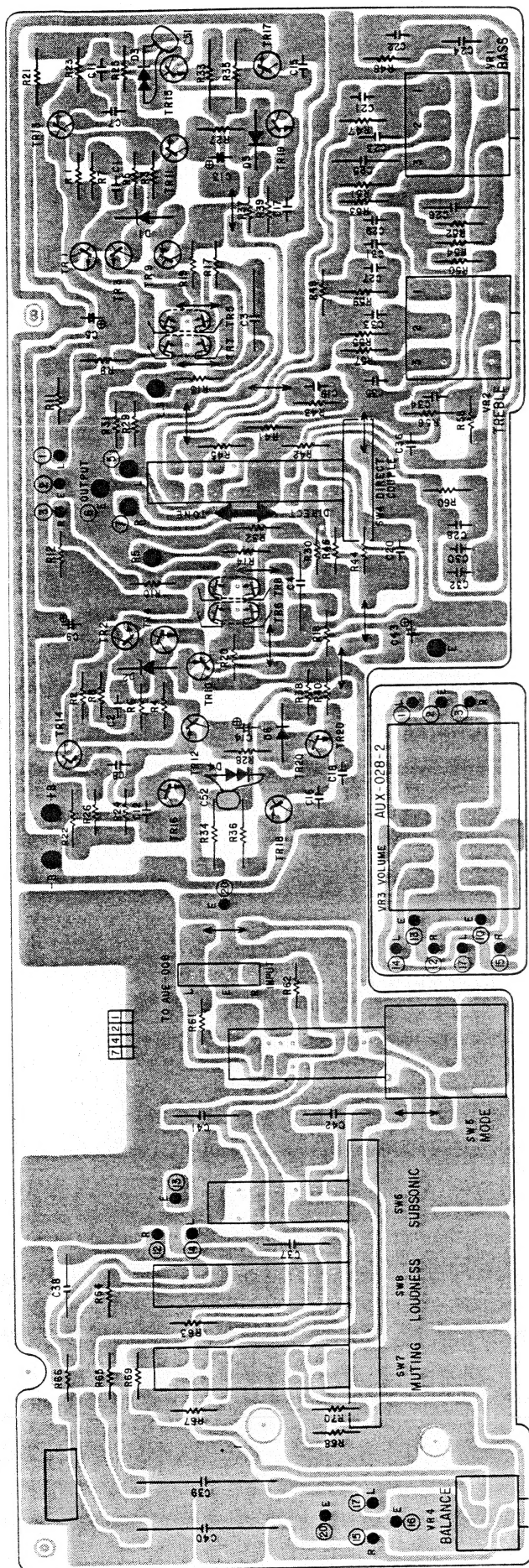


EQ. SERVO UNIT PARTS LIST

| Ref. No. | Part No. | Part Name & Descriptions |
|----------------|------------|---|
| SEMICONDUCTORS | | |
| IC01 | 2630133002 | μ PC741(C) INTEGRATED CIRCUIT |
| IC02 | 2630133002 | μ PC741(C) INTEGRATED CIRCUIT |
| D01 | 2760253001 | HZ15-2 DIODE |
| D02 | 2760253001 | HZ15-2 DIODE |
| RESISTORS | | |
| R01 | 2412118009 | 12 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R02 | 2412118009 | 12 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R03 | 2412113004 | 7.5 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R04 | 2412113004 | 7.5 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R05 | 2412108006 | 4.7 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R06 | 2412108006 | 4.7 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R07 | 2412104000 | 3.3 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| R08 | 2412104000 | 3.3 kohm \pm 5% $\frac{1}{4}$ W CARBON FILM |
| CAPACITORS | | |
| C01 | 2561017019 | 0.01 μ F \pm 10% 630V METALIZED |
| C02 | 2561017019 | 0.01 μ F \pm 10% 630V METALIZED |
| C03 | 2544005006 | 330 μ F 6.3V ELECTROLYTIC |
| C04 | 2544005006 | 330 μ F 6.3V ELECTROLYTIC |
| C05 | 2544015009 | 10 μ F 16V ELECTROLYTIC |
| C06 | 2544015009 | 10 μ F 16V ELECTROLYTIC |
| OTHER PARTS | | |
| | 2220622004 | P.W. BOARD |
| | 2050112030 | 3P CONNECTOR BASE |
| | 2090008146 | JUMPER SHORT LEAD P=5mm USED 2 |
| | 2090008120 | JUMPER SHORT LEAD P=10mm USED 1 |
| | 2090008117 | JUMPER SHORT LEAD P=12.5mm USED 2 |
| VR1 | EP-5462H13 | SEMI FIXED RESISTOR 10 KOHM |
| VR2 | EP-5462H13 | SEMI FIXED RESISTOR 10 KOHM |

AUX-028 CONTROL (B) UNIT

AUX-028 CONTROL (B) UNIT PARTS LIST



| Ref. No. | Part No. | Part Name & Descriptions | |
|----------------|------------|-----------------------------------|------------------|
| SEMICONDUCTORS | | | |
| TR01 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR02 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR03 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR04 | 2730198015 | 2SC1815(BL) | TRANSISTOR |
| TR05 | 2750024017 | μPA68H(L) FIELD EFFECT TRANSISTOR | |
| TR06 | 2750024017 | μPA68H(L) FIELD EFFECT TRANSISTOR | |
| TR07 | 2750024017 | μPA68H(L) FIELD EFFECT TRANSISTOR | |
| TR08 | 2750024017 | μPA68H(L) FIELD EFFECT TRANSISTOR | |
| TR09 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR10 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR11 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR12 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR13 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR14 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR15 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR16 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR17 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR18 | 2710102005 | 2SA1015(Y) | TRANSISTOR |
| TR19 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| TR20 | 2730198002 | 2SC1815(Y) | TRANSISTOR |
| D01 | 2760185001 | HZ-4-B3 | DIODE |
| D02 | 2760185001 | HZ-4-B3 | DIODE |
| D03 | 2760200009 | MV-11 | DIODE |
| D04 | 2760200009 | MV-11 | DIODE |
| D05 | 2760171028 | HV-23G(YL) | DIODE |
| D06 | 2760171028 | HV-23G(YL) | DIODE |
| RESISTORS | | | |
| R01 | 2412244902 | 5.1 kohm ±5% ¼W | CARBON FILM |
| R02 | 2412244902 | 5.1 kohm ±5% ¼W | CARBON FILM |
| R03 | 2412244902 | 5.1 kohm ±5% ¼W | CARBON FILM |
| R04 | 2412244902 | 5.1 kohm ±5% ¼W | CARBON FILM |
| R05 | 2412259900 | 22 kohm ±5% ¼W | CARBON FILM |
| R06 | 2412259900 | 22 kohm ±5% ¼W | CARBON FILM |
| R07 | 2412202902 | 91 ohm ±5% ¼W | CARBON FILM |
| R08 | 2412202902 | 91 ohm ±5% ¼W | CARBON FILM |
| R09 | 2412219908 | 470 ohm ±5% ¼W | CARBON FILM |
| R10 | 2412219908 | 470 ohm ±5% ¼W | CARBON FILM |
| R11 | 2412292909 | 510 kohm ±5% ¼W | CARBON FILM |
| R12 | 2412292909 | 510 kohm ±5% ¼W | CARBON FILM |
| R13 | 2412275900 | 100 kohm ±5% ¼W | CARBON FILM |
| R14 | 2412275900 | 100 kohm ±5% ¼W | CARBON FILM |
| R17 | 2412248908 | 7.5 kohm ±5% ¼W | CARBON FILM |
| R18 | 2412113004 | 7.5 kohm ±5% ¼W | CARBON FILM |
| R19 | 2412248908 | 7.5 kohm ±5% ¼W | CARBON FILM |
| R20 | 2412248908 | 7.5 kohm ±5% ¼W | CARBON FILM |
| R21 | 2410182008 | 750 ohm ±5% ½W | CARBON FILM |
| R22 | 2410182008 | 750 ohm ±5% ½W | CARBON FILM |
| R23 | 2412195909 | 47 ohm ±5% ¼W | CARBON FILM |
| R24 | 2412195909 | 47 ohm ±5% ¼W | CARBON FILM |
| R25 | 2412195909 | 47 ohm ±5% ¼W | CARBON FILM |
| R26 | 2412195909 | 47 ohm ±5% ¼W | CARBON FILM |
| R27 | 2412224906 | 750 ohm ±5% ¼W | CARBON FILM |
| R28 | 2412224906 | 750 ohm ±5% ¼W | CARBON FILM |
| R29 | 2412299902 | 1M ohm ±5% ¼W | CARBON FILM |
| R30 | 2412299902 | 1M ohm ±5% ¼W | CARBON FILM |
| R31 | 2412275900 | 100 kohm ±5% ¼W | CARBON FILM |
| R32 | 2412275900 | 100 kohm ±5% ¼W | CARBON FILM |
| R33 | 2440021029 | 22 ohm ±5% 1W | METAL OXIDE FILM |
| R34 | 2440021029 | 22 ohm ±5% 1W | METAL OXIDE FILM |
| R35 | 2440021029 | 22 ohm ±5% 1W | METAL OXIDE FILM |
| R36 | 2440021029 | 22 ohm ±5% 1W | METAL OXIDE FILM |
| R37 | 2412231902 | 1.5 kohm ±5% ¼W | CARBON FILM |
| R38 | 2412231902 | 1.5 kohm ±5% ¼W | CARBON FILM |
| R39 | 2412231902 | 1.5 kohm ±5% ¼W | CARBON FILM |

(Con.)

| Ref. No. | Part No. | Part Name & Descriptions |
|-------------------|------------|---|
| R40 | 2412231902 | 1.5 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R41 | 2412203901 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R42 | 2412203901 | 100 ohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R43 | 2412228902 | 1.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R44 | 2412228902 | 1.1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R45 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R46 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R47 | 2412262900 | 30 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R48 | 2412262900 | 30 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R49 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R50 | 2412227903 | 1 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R51 | 2412262900 | 30 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R52 | 2412262900 | 30 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R53 | 2412245901 | 5.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R54 | 2412245901 | 5.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R55 | 2412236907 | 2.4 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R56 | 2412236907 | 2.4 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R57 | 2420203003 | 10M ohm $\pm 10\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R58 | 2420203003 | 10M ohm $\pm 10\%$ $\frac{1}{4}W$ CARBON COMPOSIT |
| R59 | 2412245901 | 5.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R60 | 2412245901 | 5.6 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R61 | 2412251908 | 10 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R62 | 2412251908 | 10 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R63 | 2412238905 | 3 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R64 | 2412238905 | 3 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R65 | 2412255904 | 15 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R66 | 2412255904 | 15 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R67 | 2412243903 | 4.7 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R68 | 2412243903 | 4.7 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R69 | 2412265907 | 39 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| R70 | 2412265907 | 39 kohm $\pm 5\%$ $\frac{1}{4}W$ CARBON FILM |
| CAPACITORS | | |
| C01 | 2554077040 | 0.0015 μF $\pm 5\%$ 100V PLASTIC FILM |
| C02 | 2554077040 | 0.0015 μF $\pm 5\%$ 100V PLASTIC FILM |
| C03 | 2561018005 | 0.1 μF $\pm 10\%$ 250V METALIZED |
| C04 | 2561018005 | 0.1 μF $\pm 10\%$ 250V METALIZED |
| C05 | 2544035005 | 10 μF 35V ELECTROLYTIC |
| C07 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C08 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C09 | 2544035005 | 10 μF 35V ELECTROLYTIC |
| C11 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C12 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C13 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C14 | 2544044009 | 1 μF 50V ELECTROLYTIC |
| C15 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C16 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C17 | 2521017004 | 20 pF $\pm 5\%$ 50V MICA FILM |
| C18 | 2521017004 | 20 pF $\pm 5\%$ 50V MICA FILM |
| C19 | 2521050003 | 470 pF $\pm 5\%$ 50V MICA FILM |
| C20 | 2521050003 | 470 pF $\pm 5\%$ 50V MICA FILM |
| C21 | 2521014007 | 15 pF $\pm 5\%$ 50V MICA FILM |
| C22 | 2521014007 | 15 pF $\pm 5\%$ 50V MICA FILM |
| C23 | 2561020006 | 0.015 μF $\pm 5\%$ 630V METALIZED |
| C24 | 2561020006 | 0.015 μF $\pm 5\%$ 630V METALIZED |
| C25 | 2554081065 | 0.082 μF $\pm 5\%$ 100V PLASTIC FILM |
| C26 | 2554081065 | 0.082 μF $\pm 5\%$ 100V PLASTIC FILM |
| C27 | 2521030007 | 68 pF $\pm 5\%$ 50V MICA FILM |
| C28 | 2521030007 | 68 pF $\pm 5\%$ 50V MICA FILM |
| C29 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C30 | 2521034003 | 100 pF $\pm 5\%$ 50V MICA FILM |
| C31 | 2556103006 | 0.0015 μF $\pm 5\%$ 50V PLASTIC FILM |

| Ref. No. | Part No. | Part Name & Descriptions |
|--------------------|------------|---|
| C32 | 2556103006 | 0.0015 μF $\pm 5\%$ 50V PLASTIC FILM |
| C33 | 2521014007 | 15 pF $\pm 5\%$ 50V MICA FILM |
| C34 | 2521014007 | 15 pF $\pm 5\%$ 50V MICA FILM |
| C35 | 2554079064 | 0.012 μF $\pm 5\%$ 100V PLASTIC FILM |
| C36 | 2554079064 | 0.012 μF $\pm 5\%$ 100V PLASTIC FILM |
| C37 | 2554081081 | 0.1 μF $\pm 5\%$ 100V PLASTIC FILM |
| C38 | 2554081081 | 0.1 μF $\pm 5\%$ 100V PLASTIC FILM |
| C39 | 2556022006 | 750 pF $\pm 5\%$ 50V PLASTIC FILM |
| C40 | 2556022006 | 750 pF $\pm 5\%$ 50V PLASTIC FILM |
| C41 | 2554082048 | 0.18 μF $\pm 5\%$ 100V PLASTIC FILM |
| C42 | 2554082048 | 0.18 μF $\pm 5\%$ 100V PLASTIC FILM |
| C43 | 2544015009 | 10 μF 16V ELECTROLYTIC |
| C51 | 2561016007 | 0.068 μF $\pm 10\%$ 400V METALIZED |
| C52 | 2561016007 | 0.068 μF $\pm 10\%$ 400V METALIZED |
| OTHER PARTS | | |
| VR01 | 2220578006 | P.W. BOARD |
| | 2050112030 | 3P CONNECTOR BASE |
| | 2090008120 | JUMPER SHORT LEAD P=10mm USED 2 |
| | 2110241027 | VARIABLE RESISTOR 100 KOHM FOR BASS |
| VR02 | 2110239002 | VARIABLE RESISTOR 100 KOHM FOR TREBLE |
| VR03 | 2110240101 | VARIABLE RESISTOR 50 KOHM FOR VOLUME |
| VR04 | 211024200 | VARIABLE RESISTOR 100 KOHM FOR BALANCE |
| SW04 | 2124203008 | 1P PUSH SWITCH FOR DIRECT |
| SW05 | 2120159004 | ROTARY SWITCH (A) FOR MODE |
| SW06 | 2124204007 | 3P PUSH SWITCH FOR FIL. |
| SW07 | 2124204007 | 3P PUSH SWITCH FOR MUT. |
| SW08 | 2124204007 | 3P PUSH SWITCH FOR LOUD. |
| | 2030170021 | 1P CONTACT ASS |
| | 2034131040 | 3P CONNECTOR CORD FOR +, -B |
| | 2040070001 | 6P CONNECTOR CORD FOR TONE OUT |

WIRING DIAGRAM

⚠ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.

